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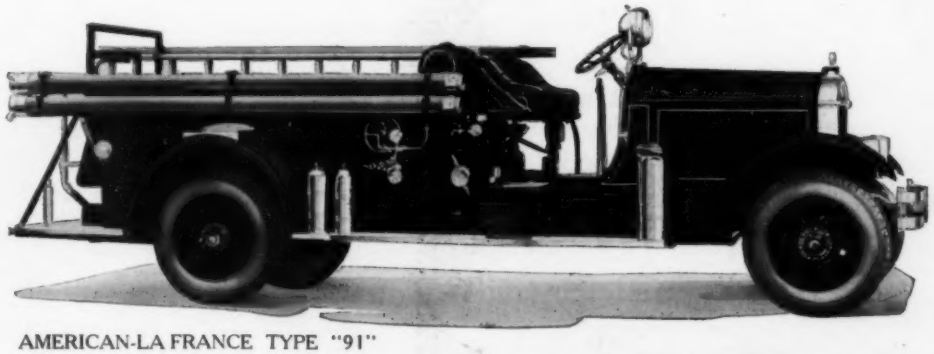

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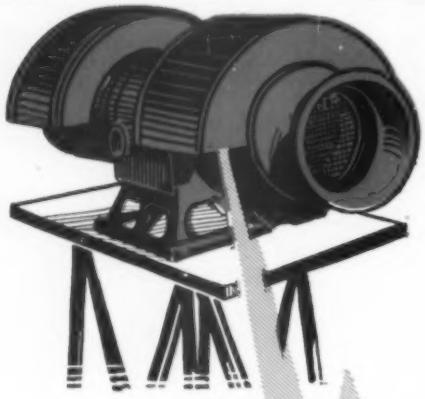

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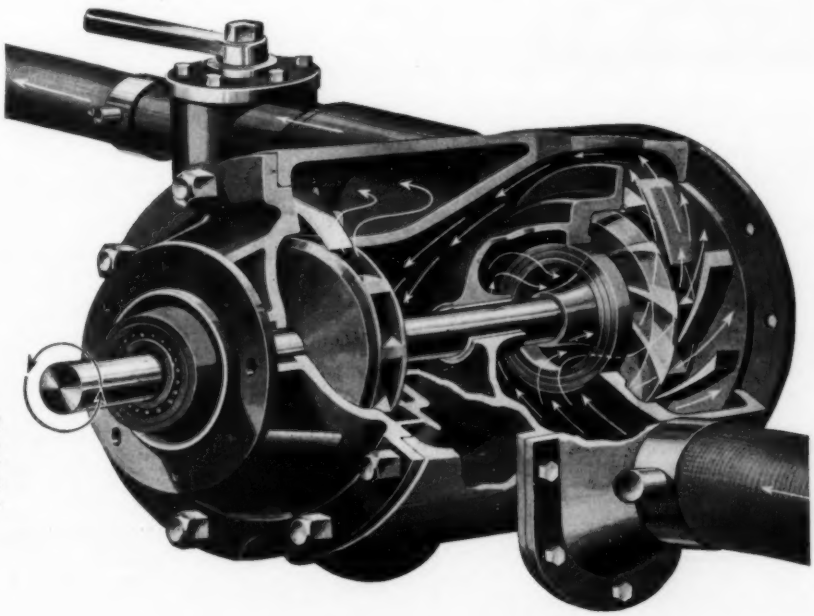

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The Journal of the Fire Protection Profession Since 1877

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A consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER

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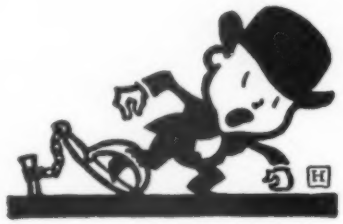

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The Publishers

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Entered as second class matter at the Post Office, Albany, N. Y., January 29, 1926, under the Act of March 3, 1879.

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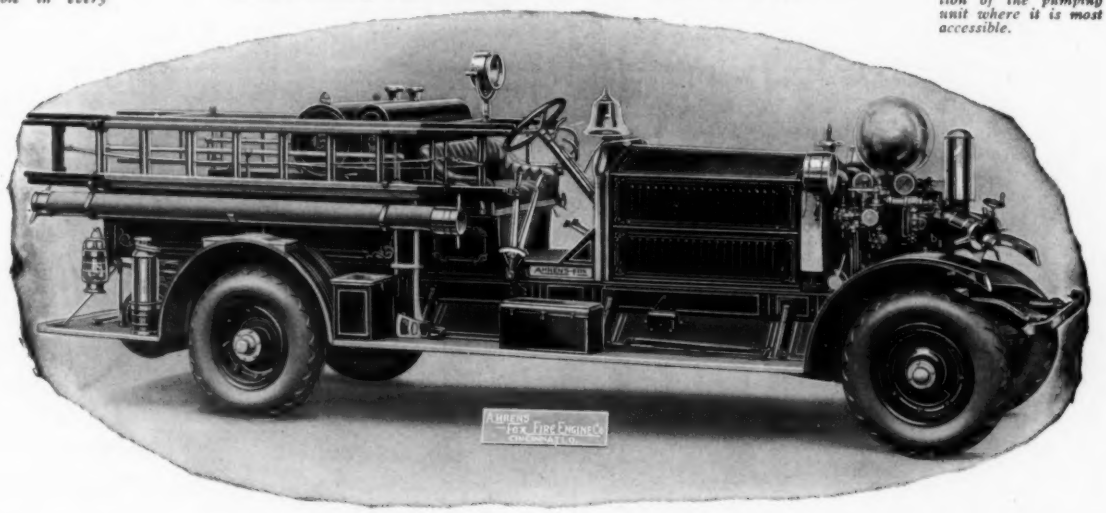
Note the balanced and sturdy construction and the practical position of the pumping unit where it is most accessible.



Modern Ahrens-Fox Apparatus

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Fire officials throughout the country who are alive to their public responsibilities invariably place quality—efficiency and dependability—above price and every other consideration in the selection of apparatus.

When the lives of their fellow-citizens, and their children, to say nothing of property valued at hundreds of thousands of dollars, are dependent for safety against fire upon the perfect operation of their equipment in every emergency, the selection of apparatus other than the best money can buy is unpardonable folly.

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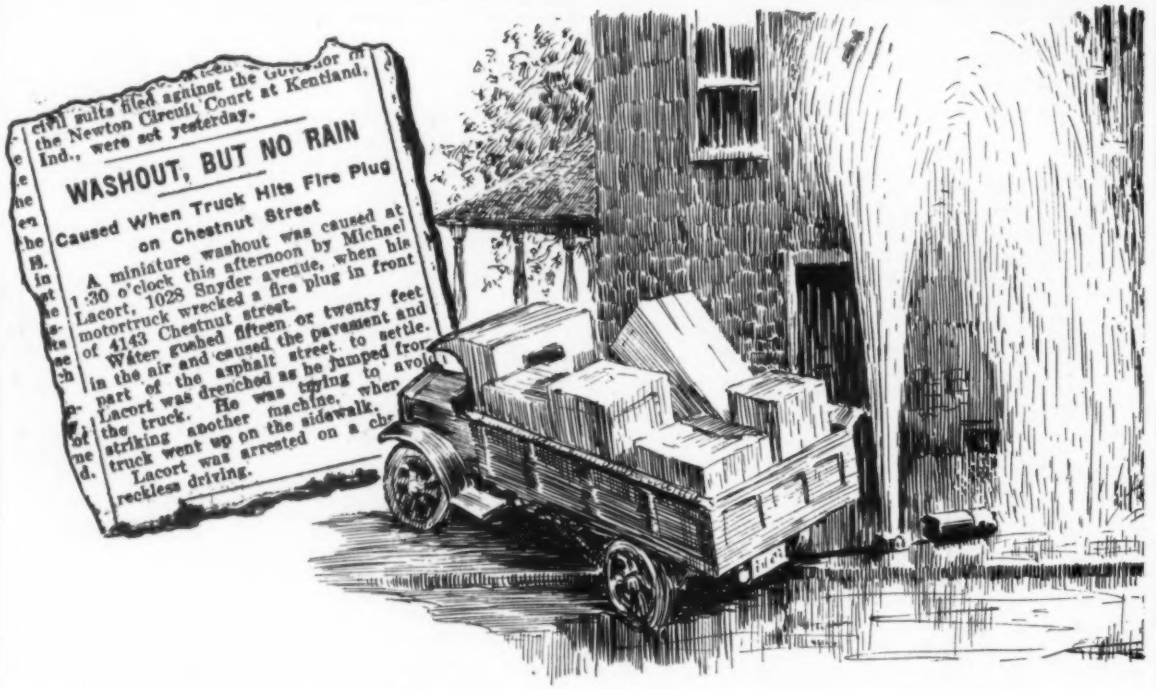
civil suits filed against the Governor in the Newton Circuit Court at Kentland, Ind., were set yesterday.
WASHOUT, BUT NO RAIN
Caused When Truck Hits Fire Plug on Chestnut Street
A miniature washout was caused at 1:30 o'clock this afternoon by Michael Lacort, 1028 Snyder avenue, when his motortruck wrecked a fire plug in front of 4143 Chestnut street.
Water gushed fifteen or twenty feet in the air and caused the pavement and part of the asphalt street to settle. Lacort was drenched as he jumped from the truck. He was trying to avoid striking another machine, when truck went up on the sidewalk.
Lacort was arrested on a charge of reckless driving.

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GATE VALVES

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The mechanical design of the *Foamite* Foam Generator makes it not only a highly efficient producer of foam when set up, but also an extremely convenient appliance to carry on motor fire apparatus.
As shown above, the inverted hopper can be held by spring clips to a metal box that contains the rest of the equipment. The box fits any running board—held firmly in place. Arrived at the scene of fire, it takes only a few minutes to set up the Generator and start operation.

EXPERIENCE has shown that high-grade foam, properly applied, is the only extinguishing agent capable of controlling extra-hazardous fires. For this reason more than 900 Fire Departments are equipped with *Foamite* Hand Extinguishers or *Foamite* 40-gallon tanks.

Now another highly efficient foam-producing unit is available—the *Foamite* Foam Generator.

Connected into any hose line, this device produces a large, steady stream of foam by the automatically regulated mixture of Foam Generator Powder and flowing water. The quantity of foam is limited only by the supply of powder and water.

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Against Fire

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The "Special Delivery," which is being used successfully by the telegraph and control division of the New York City Fire Department, is ideal for light, fast, emergency and supply service.

The Speed Trucks, ranging from 1¼ to 2-ton capacities and with wheelbase lengths of from 117 inches up to 164 inches (according to model selected), are especially suitable for mounting chemical units, medium-capacity pumpers, and hook and ladder equipment. The 117-inch SD has been used in several instances as a tractor truck in converting old horse-drawn equipment. All sizes of Speed Trucks are built with 4 and 6-cylinder engines, affording a range of power to meet special local requirements.

For heavier work, there are International Heavy-Duty Trucks, in chain drive and double reduction gear drive types, for rated capacities up to 5 tons. These are sturdy, long-lived trucks capable of doing the heaviest kind of work at low cost.

For more specific information, get in touch with the nearest sales and service branch—there are 136 in the United States—and inquire concerning the chassis that best fits your service.

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Northern supremacy is proved

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Because no fire pump will ever be called upon to undergo the continuous grueling duty required of an industrial pump.

The Northern was first designed as—and still is—a fire pump. Its built-in stamina has enabled it to satisfy the infinitely heavier demands of industrial use.

Everywhere, the Northern is doing things no other rotary pump has done, and in fire service is delivering "more gallons per horsepower."

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(A Consolidation of Fire and Water Engineering and The Fire Engineer)

The Journal of the Fire Protection Profession

VOLUME LXXX SEPTEMBER 7, 1927 NUMBER 18

Protecting the Unfinished Skyscraper

Every Facility for Fighting Fire High Above Street Should be Provided—Capped Standpipes and Elevators Should be in Place

By DEPUTY CHIEF JOHN J. T. WALDRON, New York Fire Department *

WITH high buildings being erected even in the smaller cities and towns, and with the erection of substantial structures ever on the increase, the subject of this paper will be found of interest to all chiefs, whether at the head of great metropolitan fire departments or of those of more modest municipalities. The author of the paper is an officer whose knowledge and experience fits him to speak with authority on the subject which he handles.

Deputy Chief J. H. T. Waldron, New York

The fire record in buildings in the course of construction, the comparatively high and unjustifiable losses sustained in same, as well as the undue handicap imposed upon fire department in attempting to cope with such fires, particularly in buildings of 20 stories or more in height, makes this subject a matter of importance and interest to all fire chiefs at this time.

With skylines of all cities ever mounting upward, the high building is fast becoming a "matter of fact" feature not only in large population centres, but in many of the smaller towns throughout the United States and the Dominion of Canada.

It may be deemed necessary to limit the height and areas of buildings for aesthetic or economic reasons, but to apply restrictions solely for the lack of equipment or development of a fire department is a short-sighted policy.

Where land value or geographical conditions prevent extension of a community over wider territory, it becomes necessary for the town to climb skyward, and it is a matter both of duty and civic pride for the fire department to travel upward with the growing metropolis rather than to confess impotency and act as a retardant for a natural growth. The fire department should meet its particular problems with greater departmental efficiency, newer thought, and modern machinery.

Average Fire Chief Has Progressive Viewpoint.

The view point of the modern chief of a fire department toward the development of his city, particularly as to construction and height of buildings should be, and usually does represent the most progressive thought of the community.

It is the attitude that he will be ready to meet any emergency or development, and such development must never be restricted to the limitations of the fire department as it may be constituted and equipped at present. It is better to permit engineers and technical men on City Planning the widest possible scope, and the fire department will stand ready to deal with all problems of fire protection and fire fighting coincident with such progress.

It must be remembered, however, that unless the chief of the fire department is supported by the people of the community and by the civic and political authorities responsible for the enactment and enforcement of rational regulations to govern the construction and protection of buildings, and for the furnishing of proper fire fighting apparatus, the fire chief will be unduly handicapped in his work. The fire chief, therefore, must be constantly alert in presenting his thought and experience for fire protection to his community, lest the needs of his department be overlooked and the lessons of the lack of adequate fire prevention and protection in buildings of more than average height as experienced in the past be forgotten.

Big Problem in Buildings Being Constructed

The fire protection and fire fighting problem in buildings in the course of construction is a greater task than that in the completed and occupied buildings. The amount of flammable materials stored and used in buildings being erected, such as light lumber, temporary wooden forms, waste packing materials, rubbish, etc., even in the so-called "fireproof" structures will be found to be greater than the entire combustible furnishings and contents of the same buildings after construction and ordinary commercial occupancy. And while being erected, the safeguards of separating and enclosure partitions, shaft enclosures, and auxiliary fire fighting equipment, will usually be found lacking.

Yet such persons as construction engineers, architects, contractors, owners, and others who might be expected to know and believe to the contrary, seemingly ignore the ordinary fire hazards as well as the extraordinary ones in buildings during the course of construction, viewing the risks as minor evils of temporary character requiring no great consideration on their part. It is merely something for the chief of the fire department to worry about when the fire occurs.

Local Laws Often Lacking in Protective Clauses

In many instances it will be found that local ordinances and regulations contain no provisions for protection against fire in structures during erection. In other cases, even if such regulations do exist, they are ignored during the progress of the work, and the chief of the fire department is apt to grow weary of fighting and struggling to protect billions of property where practically every law for its safety is set aside. While fire is the last thing some people think about, it will ever be a primary thought for the chief of the fire department.

Regulations are easy to establish, but enforcement is a difficult matter to achieve, especially where there is a division of authority and responsibility. In many instances, ordinances divide the duties of fire protection and building construction between a bureau of buildings, a fire prevention bureau, and the fire department.

Chief Should Have Full Responsibility

A common sense provision would be to center such responsibility in the one department most interested in the safety and protection of the community and least susceptible to be swayed

*Instructor in New York Fire College. From a paper read before the annual convention of International Association of Fire Chiefs at Portland, Ore.

either through lack of appreciation of the hazards or by disregard of such dangers. The only department which would be so considered in any community is the fire department, and the real official who should be charged with all responsibility in this matter is the chief of the fire department. No real chief will hesitate to assume and bear this burden of responsibility when supported by proper laws and authority.

With this preamble as to the viewpoint of fire chiefs and their position in connection with this subject, the following suggestions and recommendations are offered.

In dealing with the hazards incidental to buildings in the course of construction, regulations should contemplate not only protection to buildings of extreme or more than ordinary height, but should also cover buildings of average height and area. While the many-storied building will naturally require special protection based upon general equipment as will be provided in the completed structure, in buildings of lesser height a general provision must be made for some auxilliary equipment.

> "In these tall buildings during construction, where properly installed and maintained standpipe equipment is lacking, the condition should be rightly deemed a 'dangerous condition,' justifying the issuance of a 'stop order' on the job until the hazard is abated."

Hazards in All Buildings During Construction

Among the hazards which exist in all buildings during construction are:

(a) Large quantities of flammable materials stored on premises or in use for temporary hoistways, scaffolding and similar structures either within or on the outside of the buildings.
(b) Universal practice of smoking by the workmen;
(c) Sparks from rivet heating furnaces, and throwing of red hot rivets from furnaces to point of work;
(d) Use of Salamanders and other heating appliances for drying of cement, plastering, etc.,
(e) Bonfires used to dispose of waste material and other rubbish;
(f) Obstruction of fire hydrants, in vicinity, by various piles of building materials;
(g) Lack of portable fire extinguishing equipment in all buildings, and lack of proper standpipe equipment in tall buildings;
(h) In event of fire occurring in tall buildings during construction, flying and falling brands and embers endanger property over wide area.

In all buildings which when completed will be more than four stories and less than eight stories in height, it would suffice to have the contractor in charge of construction provide a cask of water with two regulation fire pails on each floor, so there shall be available some means to limit and extinguish incipent fires. Buildings of this limited height are at least within the reach of fire department equipment such as aerial ladders, hose line stretchers, and water streams in case of fire.

Necessity for Standpipes in Tall Buildings

However, the expense for the maintenance and operation of the fire department being borne by the tax payer, it is hardly fair the tax levies should include the extra burden of equipping fire departments with apparatus necessary to combat fires in the upper portions of taller buildings. The effective operation of the fire department in tall buildings is almost wholly dependent upon the installation and proper operation of standpipe systems whether the building is completed and occupied, or whether it is still in the course of construction. The providing of and maintenance of such equipment is rightly a matter to be charged to the individual owner.

In all buildings exceeding 85 feet in height, standpipe systems should be installed. Such fire line systems should have regulation hose outlet valves on each story, a fire department siamese connection at street level, an adequate gravity tank supply of water connected to system at upper level, check valves on horizontal run from riser to outside siamese at lower level and check valves at upper level between riser and gravity tank. When installed completely, hose should be attached to each floor outlet.

The Installation of Fire Pumps

When any building exceeds 250 feet in height, in addition to the gravity tank supply at upper level, proper fire pumps should be connected to the standpipe system and kept in readiness for immediate use. These fire pumps should be located in lowest story and should be supplied with water from suction tanks. In cases where a building exceeds 300 feet in height, intermediate fire pumps each having a supply from suction tanks should be provided, and so arranged and connected to the system as to afford a vertical relay of pressure and water supply on the system. The intermediate pumps and suction tanks should be placed throughout the height of the building as to have a fire pump at each successive 250 foot level.

Capped Risers Above 85 Feet

In all buildings, which when completed, will require a system of standpipes, the risers shall be installed when the building reaches the height of 85 feet, and said risers shall be carried up with the structure, the top of each riser to be securely capped except when work of adding another section to the riser is in progress at that point. The hose outlet valves should be provided on each story, and the siamese connection should be on system and located in an accessible place, thus the entire standpipe system will be ready for use at any time while the building is being erected.

In buildings where fire pumps and suction tanks will be required in connection with the standpipe system, such equipment should be installed during the construction of the building as soon as the structure reaches the 250 foot level, and all intermediate pumps and suction tanks likewise installed as the permanent level of each of such equipment is reached. In buildings of this character and height, the water supply for suction tanks, and the operation of fire pumps should be established without delay.

Proper Construction of Elevators

Buildings exceeding 150 feet in height should have a fully enclosed elevator or hoist so portable fire extinguishing appliances and firemen with regulation equipment may be quickly carried to any floor if necessary. Such elevator or hoist should be carried with the structure after it reaches the 150 foot level, and the elevating apparatus for hoist can be raised to a point not more than six floors below each highest floor. The intent of this suggestion is to permit work of carrying up the enclosure partitions of elevator six stories above point to which elevator may be operated thus continuing use of elevating machinery at all times while construction proceeds.

Summary of Common Sense Requirements

A summary of common sense requirements and regulations to limit fire hazards in buildings during course of construction should include:

(a) Keeping all fire hydrants in the vicinity free from obstructions. Contractors shall not pile materials in front of nor adjacent to said hydrants.
(b) Street fire alarm boxes also to be kept unobstructed.
(c) Providing portable fire extinguishing equipment such as casks of water and regulation fire pails. Non-freezing mixture to be placed in such cases during winter months.
(d) In buildings exceeding 20 stories in height, at least one 40-gallon portable fire extinguisher, soda and water type, to be provided, and kept in proper enclosure on 1st floor near elevator so same may be taken to any floor without loss of time.
(e) Proper watchman service to be maintained to guard premises after working hours.
(f) All waste materials to be removed from premises without delay to prevent accumulation of rubbish, and prohibit the kindling of bonfires in basements; where bonfires are kindled in vicinity to dispose of rubbish, same shall be constantly attended and thoroughly extinguished at end of day.
(g) Where salamanders or similar appliances are used for drying of plastering and cement work same shall be constantly attended and thoroughly extinguished after use.
(h) Temporary electric wiring shall be installed in approved manner.

Precautions in Buildings Over 250 Feet High

In the case of steel frame structures of the so-called fireproof type exceeding 250 feet in height, in the erection of temporary hoistways, scaffolding and similar construction work either inside or outside of building, if any combustible material is used for any part of same, at least the supporting members and enclosure should be of incombustible materials.

All steel work which is part of structure should be protected by fireproofing without delay. The usual practice of leaving the main columns on the first floors unprotected until the rest of the structure is complete is bad practice. These first floor columns may contemplate some special and ornamental covering

(*Continued on page* 953)

Grass Fire Results in Big Blaze

Takes Lumber Piles First, Then Three Dwellings in a Row, and Finally a Motor Bus Factory

FIRES involving large plants with no private fire protection, and located in suburbs of medium or large cities usually develop into serious problems. The fire described in this issue of the series on administration is no exception.

It occurred in a city of approximately 35,000 population located in the central section of the country.

The water supply in the neighborhood of the property involved was deficient, there being but one long 8 inch main and one 6 inch main supplying three available hydrants. The property in the neighborhood of the fire is shown in the sketch herewith.

The department in the city in which this fire occurred consists of three engine companies equipped with combination pumpers and hose cars; 1 quadruple combination, which includes a pumper, chemical and hose and city service truck all in one; also one city service truck.

The response to alarms is as follows:

First alarm Engine Cos. No. 1 and 2, and truck Co. No. 1.

General alarm: Engine Cos. Nos. 3 and 4; the latter being the quadruple combination apparatus.

At the time this fire occurred a very strong wind was blowing from the east which was largely responsible for the rapid spread of the fire and the extent of the damage done.

Description of Property Involved

The property involved in this fire included a lumber yard, three dwellings and a motor bus factory. The latter establishment was made up of several buildings in a group. The first of them, occupied as a warehouse, was of wooden construction throughout, and four stories in height.

The top floor was stocked with wheels and other miscellaneous parts while the third floor was used as storage for trailer parts. The second and first floors were used for storage of metal parts used in the manufacture of automobile buses.

The large building, a four story affair, was occupied on the top floor by miscellaneous storage, patterns and blue printing. The third floor was used for auto storage and painting, the second for auto storage and metal work as well as offices. The ground floor was employed as a wood working room for manufacturing bodies for buses.

The one story building to the left of the plant, and adjacent to the private garage was used for lumber storage. The large center building was a brick construction while all other buildings including the first one noted were of wood construction throughout.

The Fire

The fire started in a grass plot to the rear of the dwellings shown in the sketch, and just west of the plant. Grass burned over toward the lumber pile as well as toward the dwellings. Fire however gained its first headway in the lumber piles and was not noticed until it had fully involved several piles.

The blaze was discovered about 2:30 in the morning by occupants of the dwelling nearest to the lumber piles. When the fire was discovered the dwelling itself was being badly scorched.

An alarm was sent in by telephone and first alarm assignment responded including Engine Cos. Nos. 1 and 2 and Truck Co. No. 1.

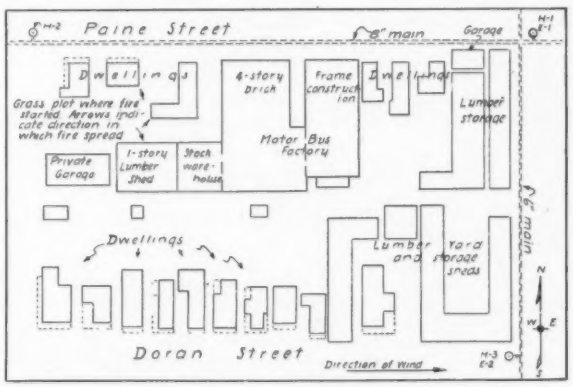
Due to the heavy wind blowing the fire was rapidly carried from the lumber piles to the first, second and third dwellings in a row and the warehouse was in danger of becoming involved when the apparatus arrived.

How the Fire Was Fought

Engine Co. No. 1 was placed at hydrant No. 1 and a single line stretched with 1¼-inch nozzle to operate on the lumber fire.

Engine Co. No. 2 was placed at hydrant No. 3 and a single line stretched to operate on the dwelling house. A 1⅛-inch nozzle was employed.

It was evident from the first that these two lines could



not hold the fire so an additional alarm was transmitted, bringing out Engine Cos. Nos. 3 and 4.

Engine Co. No. 3 was placed at hydrant No. 2 and a single line stretched to the warehouse. By this time the lumber yard fire was beyond control and the three dwellings were fully involved. The heat was so intense, due to the wind from the east, that the lines could not operate at sufficient proximity to properly cover the warehouse. As a result the warehouse was entered by fire and from this point on the flames progressed rapidly. Soon this building was fully involved and the large main building also took fire.

Noting the hoplessness of the situation, insofar as bringing the fire in the plant under control was concerned, the department determined upon covering exposures alone. To accomplish this a line was shifted to cover the lumber yards across the narrow street at the rear of the plant as well as dwellings to the west of the plant. In holding the fire the department was successful, preventing the fire from leaving the area outlined, with the exception of a couple of dwellings at the extreme west. The fire was confined to one block and within this block alone was damage done.

The Editor's ideas on the handling of this fire will be given in the next issue.

DOMINION FIRE CHIEFS HOLD BIG CONVENTION AT HULL

Large Attendance and Good Discussion —Excellent Entertainment Features— Exhibits a Part of Convention

PRACTICAL discussion on fire department and fire prevention matters and an excellent program of entertainment signallized the nineteenth annual convention of the Dominion Association of Fire Chiefs, which took place at Hull, Quebec, Canada, on July 25 to 28. There was a large attendance of Canadian chiefs, and the sessions were held in the Hull city hall. An extensive exhibit was also staged in a large building at Parc Royal, Hull.

Chief Alphonse Tessier, of the Hull Fire Department, presided as president of the association. Among the subjects discussed at the convention was the protection from fire of isolated farm houses and barns, and rural communities. All buildings of this character should be equipped with ample numbers of chemical and other extinguishers. Joseph Bond, speaking in French, emphasized the need of a hydrant at every street intersection and also pointed out that every public office and all general stores should be equipped with serviceable fire extinguishers. Hose, care of fire apparatus, fire prevention and other important topics were vigorously treated by the chiefs.

J. Grove Smith, Dominion fire commissioner, urged that every driver of fire apparatus be tested, cross-examined and licensed before assuming the responsibility of driving a fire apparatus.

On Tuesday, July 26, the afternoon was spent at Luna Park, Hull, and the evening closed with a banquet, given the chiefs and their families by the Hull city council.

At noon on the 26th a parade was given by the Hull Fire Department, and the chiefs were the guests of the Kiwanis Club of Hull at luncheon at noon on the 27th.

The election of officers at the final session resulted in the following being chosen:

President, Chief George M. Bradv, of North Bay, Ont.
First Vice-President, Chief R. Harrington, McColl Refineries, Montreal, Que.
Second Vice-President, Chief W. Phillips, Sault Ste. Marie, Ont.
Secretary, Chief James Armstrong, Kingston, Ont.
Treasurer, Chief R. McLeod, Port Arthur, Ont.
Auditor, M. Muir, Kingston, Ont.
Directors, Chiefs Spaulding, Prescott, Ont.; Guerin, Kitchener, Ont., and Day, Pembroke, Ont.

Chiefs Tessier and Armstrong were appointed as delegates to the International Association convention at Portland, Ore. Kingston was chosen as the convention city for 1928.

The convention unanimously elected P. J. Veniot, postmaster general of Canada, as honorary president, in view of the fact that he had previously seen service as a fire chief and fire-fighter.

Chief Armstrong, of Kingston, secretary of the association, in the name of the visiting chiefs presented Fire Chief Tessier, of Hull, with a suitable engraved gold watch. Mayor Theo Lambert and Ald. W. S. Larose, president of the Hull Fire Department, to whom much of the success of the convention is due, were given pipes and tobacco pouches while Mrs. Lambert and Mrs. Larose were presented with beautiful bouquets, as was Miss Annetta Dupuis, Red Cross nurse, who had rendered valuable assistance to the visiting ladies.

Fresno Again Bids for Ince Cup

Because of its low fire loss record for the past year, Fresno, Cal., has entered a bid to be awarded the Ince trophy which it has won on two previous years.

Fire losses for the fiscal year ending June 30, 1927, totaled $279,568 and nearly half of this figure was due to two large conflagrations. For the third consecutive year, the city has been fortunate in not having any loss of life due to fire.

There were 363 alarms received. Back in 1921 when the fire loss of the city reached the peak of $1,840,562, there were 485 alarms received.

The greatest monthly loss occurred in November with a figure of $73,075. Chief Baird in his report pointed out that arson was cut down to a minimum. Most of the arson cases reported had to do with children who were too small to realize the significance of their acts.

There were 24,382 building inspections made during the last contest period for the Ince cup, a decrease of nearly 2,000 over the previous year, but this is explained by the plowing campaign conducted among owners of vacant lots, and achieved an even more effective result in cutting down grass fires.

Major corrections of hazardous conditions secured by the fire prevention bureau during the year were: Dangerous chimneys removed or repaired, 54; buildings protected from heating appliances, 34; hoods and grease vents installed, 24; fireproof boiler rooms constructed, 5; basements closed where considered a fire menace, 11; gasoline stoves removed, 7; projection room booths reconstructed to comply with city ordinance, 4; and a variety of other changes were made. Repair work also removed other dangerous fire hazards.

Education of the public, through meetings, the press and other agencies, was continued. During 1926-27 there were 111 fire prevention meetings held. Talks were made in all churches, schools, department stores, civic clubs and fraternal organizations, displays were made at the county fair and at other places. Patroling of auditoriums and other places of public assembly during the time crowds were there also furnished an added protection.

During Fire Prevention Week 13,000 messages to the home were distributed, 2,000 posters exhibited and other means used to impress the importance of care with fire. Schools were drilled throughout the year, a mass meeting was held and a contest rivetted the attention of school children upon the benefits of care with fire. Public officials, the press, the police department and the California Water Service Corporation were praised for hearty cooperation.

The Ladies' Auxiliary to the fire department has continued to function efficiently, and officers of the department have taken Boy Scout training, with the object of perfecting the Boy Scout Auxiliary to the department.

Fire prevention legislation. laying down strict rules for buildings with a view to diminishing the fire hazard, was also adopted by the city during the year.

EXTRAVAGANT GIFTS TO OFFICERS BECOMING A BURDEN TO FIREMEN

Unnecessary Elaborate Presentations Are Sometimes Forced Upon Men of New York Department—Time to Call a Halt, Says Correspondent

To the Editor:

You would be rendering a service to the firemen of this country and especially to those in the big cities, if you would draw attention to the all too frequent custom of presenting expensive gifts to superior officers by subordinates, who in order to meet the obligation imposed, provide for their contribution months in advance, by allocating a few dollars from each paycheck, in order to lighten the load when the day of reckoning arrives to pay for some extravagant gift.

I do not know how flagrant this practise is in other cities, but in New York, the habit has become so chronic and so expensive, that deception and deceit are practised, in order to evade the rules and regulations which are intended to minimize and restrict gifts to reasonable amounts, by specifying that twenty years service badges only may be presented and then only after permission is granted by the Chief of Department. Permission is likewise granted for the presentation of a fire hat, or a turn-out set, consisting of rubber coat and boots.

But here is where the rule is defeated and the family pocketbook is likewise defeated, for the badges, while they are truthfully replicas of official shields and thereby conform to the rule, they are invariably set with so many diamonds or other costly stones as to make their value beyond the reasonable prorated limitations of a fireman's spending money. It is the wives and the children and the family allowance that in the end pay for these very extravagant gifts.

And for what?

Genuine sentiment is figuratively thrown out the window in a frenized effort to see how much money can be collected in order to vie with other companies and outdo them in bluff and hypocritical "esteem." I have in mind the fact that every five years for the past fifteen or twenty years, a Deputy Chief in the New York department received from the officers and firemen in his division an expensive gift on the completion of so many years of active service. He had long since been in the service twenty years, but the habit grew with each five years thereafter. Some flunky or orderly would start the agitation. The timid firemen feared to refuse to chip in lest official consequences follow from "the old man" in his own autocratic way. And thus it went on, until finally his wife used to take a hand in it by reminding the company officers or the battalion officers with whom she was acquainted that "the month after next the Chief would be in so long and while I know he is opposed to having the men give him another present, still it would be nice, because this might be the last one." This condition went on for years and the Chief having received about everything in the form of an ornamental

(*Continued on page* 953)

Practical Topics at Chiefs' Convention

Conclusion of Report of I.A.F.C. Portland Gathering—Much Discussion of Interest to Fire-Fighters

FOLLOWING is the report, concluded from last issue, of the fifty-fifth annual convention of the International Association of Fire Chiefs, held at Portland, Ore., on August 9 to 13. This instalment begins with the Wednesday evening session:

Wednesday Evening Program

The first topic treated on the Wednesday evening program was "Fire Prevention" by B. F. Irvine, editor of the *Oregon Journal*. Mr. Irvine, who used to be a volunteer fireman, told of the many thrilling experiences he had in the service, and eulogized the work of volunteers as well as paid men.

Two men responsible for success of gathering—Comm. Bigelow, Portland, and Jay W. Stevens, San Francisco.

Chief Tom Graham, Corvallis, Ore., the big "wit" of the Snapping Turtles.

Chief Ross B. Davis, Philadelphia, Pa. Newly elected president.

Some of the "Big Moguls" at Portland

To emphasize the tremendous rate at which property is being destroyed by fire in this country, Mr. Irvine presented the following figures: $1,000 in buildings is burned up every minute; $60,000 every hour; $1,500,000 every day. And last year the total loss was $562,000,000. "During the past decade there has been a tremendous increase, both in annual property loss and in the loss of life," said Mr. Irvine.

He also pointed out that insurance money does not replace property which is burned up, for property burned is wealth destroyed.

Of particular interest was Mr. Irvine's description of the results of the fire prevention campaign carried out in Portland under the direction of Secretary Stevens. In 1914 Portland had the highest per capita fire loss of any city over 170,000 population in this country. The annual loss at that time was $1,797,000, or $6.78 per capita. By 1915, after the fire prevention campaign had been under way for a year, the annual property loss had been reduced about $1,000,000 bringing the per capita loss to $2.31. And at the end of the second year, the annual fire loss had been reduced to $278,000, or 93 cents per capita. In those two years 26 men had been arrested for arson, and 24 of them convicted.

Of interest also is the marked reduction in fire alarms received: in 1914 the alarms received totaled 1,960, while in 1916 the number had been reduced to 834, or less than half. Mr. Irvine lauded Secretary Stevens for the notable accomplishment, and emphasized the tremendous opposition he had to overcome in order to get the campaign in operation.

Fire Fighting in High Buildings

The second paper of the session was on "Need for Fire Fighting Equipment in High Buildings During Construction." This topic had been assigned to Chief Kenlon, but as he had already been placed on the program for a paper on Traffic Control he turned the topic over to one of his younger deputies, Deputy Chief John J. T. Waldron for treatment. This paper, which Chief Waldron prepared, was read by Chief Kenlon. This paper will be reproduced in full in a later issue of FIRE ENGINEERING.

Chief Waldron's paper provoked a great deal of interesting discussion, after Chief Kenlon started the ball rolling by asking any one of the chiefs present to tell how he would get a line of hose up to the thirtieth floor of a building if standpipes were out of commission.

Chief Frank C. McAuliffe, of the Chicago Fire Patrols, offered the first suggestions. His methods would be as follows:

First: If the elevators were still in service a line of hose would be attached to bottom of elevator and fed into the shaft as the elevator was sent up. Drop off a man with hose strap at each fifth floor and when the line reached the desired floor, it would be properly strapped at shaft and spare lengths carried in elevator car would be connected on as needed. In the meantime the men on the various floors would properly support the line in the shaft by putting hose straps on. In this manner dangerous strain on the line would be prevented when water was turned on.

Second: If elevators were out of commission, then lines would be stretched either up stairway or fire escape. In the latter case, the line would be sent up by the usual method of using hook with chain for connecting to hose. But as buildings of great height rarely have outside fire escapes, it would probably be necessary to stretch up the stairways.

Third: The third method to be used where elevators are out of commission would be to have men carry up lengths of hose up to different floors and stretch down the outside of the building, making connection at, say, every fourth floor.

Chief Murphy, of San Francisco, pointed out that the regulations in his city prevented the possibility of ever having to stretch lines up to such great heights

Chief Ross Davis, of Philadelphia, described a fire which occurred on the 16th floor of an unfinished building in his city. In this instance men were sent to upper floors with lengths, and two men to the 16th floor with a hose rope. Line was connected up on face of building and hoisted to 16th floor, where effective work was done in getting the fire under control.

Chief John Evans, of New Orleans, outlined the method by which he handled a fire in a 12 story building under construction. He stretched his lines directly up the stairs.

Chief Frank McAuliffe, of the Chicago Fire Patrols, inquired

Chief Ralph Scott, Los Angeles, Cal., Newly elected 2nd vice-president.

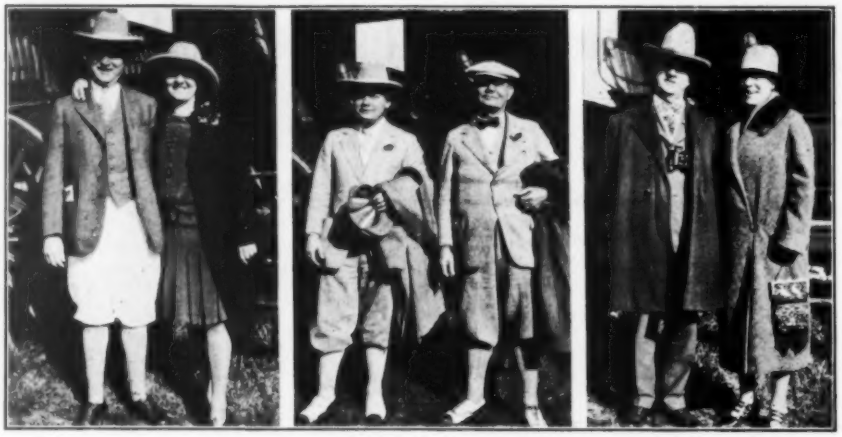
Some prominent "Southern Regulars," l. to r., Chief E. V. Beville, Gainesville, Fla., "Dick" Joyner, Dallas, Tex., Chief Cody, Atlanta, Ga., and Chief J. T. McNulty, St. Petersburg, Fla.

Eminent "foreigners" from Canada, l. to r., Ex-Chief Joe Fowler, Sudbury, Ont., Chief W. T. James, Hamilton, Ont., Chief R. Gauthier, Montreal, Que., and Chief James Armstrong, Kingston, Ont.

A Few of the Many at the I. A. F. C. Gathering in Portland

What is a Western Trip without ten-gallon hats, said these well-known Eastern Regulars who Journeyed to the Portland convention.

From left to right, Fred Bensen of Eureka Fire Hose Co., New York, with Mrs. Bensen; Chief John Kenlon of New York (right), with his son, Gerald; Chief and Mrs. George Hedden of Buffalo.



of Chief Kenlon as to the advisability of using 750-gallon pumpers for operating on high fires, it being his contention that a pumper of this size was a little too small. He gave figures to show that at high pressures the discharge of the 750 gallon pumper was a little shy of what might be required for a spreading fire. He believed that the 1000 gallon machine would be more suitable, and far better fitted for the work than the smaller one.

Chief Kenlon pointed out that fire engines must be balanced—that is they must strike a balance between what is most desirable from them in the way of capacity and what the water system will supply. He felt that the 750 gallon pumper was, for all-around city service, the most useful. Where greater supply at high pressures was desired, Chief Kenlon suggested the using of two engines on the building standpipe system instead of a single one.

Assistant Chief O'Connor, of the Washington, D. C., department told of his experiences in handling a fire in the Willard hotel in that city, and said he had found the method of stretching hose up high buildings as described by Chief McAuliffe very satisfactory.

Master Mechanic Rumsey, of the Detroit, Mich., department inquired as to the best method of signalling instructions to men on the street from a great height. The method employed in Detroit, as described by Chief Rumsey, is to signal by arms in the daytime and by hand flash lamps at night time. He has found this method fairly satisfactory. Chief Knight, of Salt Lake City, also described methods of getting lines up into tall buildings in the course of construction.

A Radio Frolic

Wednesday evening the delegates were treated to a Radio Frolic at Station KEX, one of the larger western stations located in Portland. Many were given an opportunity to talk over the air, and in addition a very entertaining program was included by concert and stage artists of note.

Sprinklers and Oil Fires Discussed

The first paper on the Thursday morning program was by Mr. M. B. Anfenger, engineer of the Standard Oil Company, and treated the subject "Extinguishing Oil Fires with Foam."

Mr. Anfenger outlined the various tests conducted to determine the most effective method of applying foam to the oil surface of burning tanks. One of the important points established by these tests was that foam loses tremendously in its effectiveness if plunged below the oil surface when applying. If foam is so applied, a large part of it is collapsed while other foam bubbles rise to the surface coated with oil, which burns and tends to promote the continuance of the fire. Mr. Anfenger urged the chiefs, when applying foam, to see that it was applied gently and permitted to flow across the oil surface, for in this way the greatest results are accomplished with a minimum quantity of foam.

The Standard Oil Company engineers have devised a portable standpipe for getting the foam from the hose lines into the standpipe in a manner such as to secure most effective results. The standpipe is fitted at its upper end with a coil of asbestos hose and a distributing head. When the standpipe is placed alongside a tank the coil of hose and head are released by a control rope, the hose thereby dropping down so as to bring the distributing head just above the oil. When the foam is subsequently supplied, it flows gently onto and over the oil surface.

Mr. Anfenger showed motion pictures which illustrated excellently the tremendous advantage of so applying the foam, as compared with the method of letting it pour from a head located at the top of the tank.

Unsatisfactory Operation of Sprinklers

The second paper of the morning session was "Unsatisfactory Operation of Sprinkler Systems; Some Causes and Corrections," by Frank C. McAuliffe, Chief of the Chicago Fire Insurance Patrols. This paper will appear in a later issue of this journal.

Round Table

The first question discussed at the Round Table, held Thursday morning, was: "We have had more than our share of false alarms during the past six months. I would like to hear from other chiefs how they check the number of such alarms."

Chief Stearns, of Bellingham, offered the first suggestion. He had experienced in his city a great number of false alarms during a certain season, and a careful check-up showed that they were all from a certain district, represented by about half a dozen alarm boxes. These boxes were put under constant supervision by the police and shortly afterward several boys were apprehended in the act of pulling the boxes. After this the epidemic of false alarms stopped.

Chief Sullivan, of Utica, N. Y., had, during the early part of one year between 40 and 50 false alarms. Suspecting that the offenders were largely boys, he had fire officers appear at the various public schools in the city and speak to the pupils on false alarms, outlining the dangers therefrom and incidentally emphasizing the penalty therefor. As a result, the following year the number of false alarms dropped to 6.

Chief Geo. W. Mantor, of Seattle, also described the methods which he employed to reduce false alarms, and which proved very effective.

Chief Evans, of New Orleans, expressed the belief that the most effective way of reducing false alarms is by education of the boys.

Former Chief Short, of Oakland, Calif., told of a series of false alarms which he had had in Oakland. They came in so fast that twenty-four fire companies, including several battalion chiefs and himself were driving around the city trying to find the fire, and stopping at the boxes from which alarms had been sent in. From the rapidity with which the boxes had been pulled, it was deduced that the miscreant was driving around in an auto. A discharged member of the fire department was suspected, and he was thereafter shadowed. From that time on the epidemic ceased, but two new pumpers had meanwhile been wrecked in smash-ups answering the alarms and four firemen badly hurt.

In Lansing, Mich., Chief Delfs reported that 753 alarms had been received in the course of a year, of which 50 were false. Most of the false alarms were ascribed to boys. He also believed the best solution of the problem was the education of the boys.

Chief T. W. Carlon, of Bend, Oregon, described how he handles the false alarm problem. He has no fire alarm telegraph system in his city, and all alarms are transmitted by telephone. When a fire is reported, the telephone employees are required to take down the address of the phone from which the

(*Continued on page* 949)

Keep Sprinklers in Working Order

Some Causes and Corrections for Unsatisfactory Operation of Automatic Sprinkler Systems—Essential Fire-Fighting Device

By FRANK C. McAULIFFE, Chief of Chicago Fire Insurance Patrols *

LIKE all automatic devices, the sprinkler system requires the supervision and care of the human brain and hand to attain and retain its proper efficiency and be ready for the emergency which it is intended to meet and control. Chief McAuliffe makes some valuable suggestions for heads of fire departments along this line:

Of all fire protection devices, an automatic sprinkler equipment installed according to sound engineering principles and maintained in an approved manner, is the most valuable. Protective devices are numerous but all are designed to perform one or more of three functions. These are to discover fire, to retard fire and to extinguish fire. For example, an automatic fire alarm may discover, an incombustible partition may retard and a pail of water may extinguish fire, but few protective devices perform more than one of these functions. On the other hand the automatic sprinkler system stands preeminent among all protective devices because it is designed to automatically discover, retard and extinguish a fire, and when in complete working order, it will accomplish all three of these ends. However, like all mechancial devices, it must be subjected to proper uses and carefully and constantly maintained in order to assure a satisfactory performance. Surely a device, which may be truly said to be more than human, is entitled to our greatest care and cooperation.

It has been well said:

"The function of the automatic sprinkler is to discharge water when and where it is most needed right in the heart of an incipient fire. It will not compensate for lack of water. It cannot make water reach a fire when something is in the way."

Fault Often Lies with Human Hand

In most instances where automatic sprinkler systems have failed to function successfully in the control and extinguishment of fire, the failure cannot be charged to the sprinkler system. The fault lies with the human hand, which either by design or neglect destroyed the efficiency of the sprinkler system before the fire began.

To many owners, the installation of an automatic sprinkler system represents merely a reduction in insurance rates. This viewpoint was well expressed by a property owner whose premises were to be equipped with automatic sprinklers, "I don't care what they put in, young man," he said to the Underwriters' engineer, "they can put in rosettes if the Insurance Companies will reduce the rates." An attitude of this kind answers many of the reasons why automatic sprinklers do not always put out fires.

On the other hand, sprinkler equipment to fire department officials, is an essential fire fighting device and a part of their fire fighting equipment. While his pumpers, trucks and other such equipment are given vigilant care and inspection, the fireman is prone to leave the inspection and care of sprinklers to the before mentioned careless and indifferent owners.

Fire chiefs realize the importance of sprinkler systems in the control of fire, and also the lack of knowledge and disregard concerning them on the part of the average owner. It is clearly a fire officer's duty to spread the gospel of proper maintenance and the importance of the equipment in its relation to the fire department.

Knowledge of Sprinklers by Officers Essential

When frequent inspections and advice have failed, and the fire occurs threatening an unsatisfactory sprinkler operation, it remains for the fire official to make the best of the situation. Through his knowledge of sprinklers he should take steps to correct the cause for inability of the sprinklers to control the fire.

Recently, several fires in sprinklered buildings have been reported as attaining large proportions due to the lack of familiarity on the part of the fire department officials with the location of controlling valves, and the methods of using sprinkler systems to best advantage as an aid to fire department operations.

Inefficient fire department operations at sprinklered fires, in almost every instance, are due to the fact that the fire officer failed to have knowledge of, or to ascertain immediately upon arrival, whether or not the premises were sprinklered, and to plan his attack taking this equipment into consideration. For this reason one of the first duties of an officer in charge, upon arrival at a fire, should be to learn whether or not the building is sprinklered. If the building is so equipped it is his duty to satisfy himself that the sprinklers are functioning in a proper manner, and that the rules, regulations or practical customs with reference to making the proper connections have been complied with. In the event that the equipment is not functioning properly, it is his duty to order additional lines into the system, make an attempt to reach the control valves, and in general assist the equipment to function efficiently.

Avoiding Trouble from Exposure Fires

Exposure fires are credited with a considerable number of unsatisfactory sprinkler conditions. When a sprinklered building is exposed, the officer in charge should order the building patroled, and guard against water damage from the opening of the heads therein. In cases of this kind, good judgment is required. It frequently happens that wire glass and metal sash windows on a bad exposure transmit sufficient heat to open the heads and create unnecessary damage. To guard against this occurrence, it is well to open windows on the unexposed sides of the building, creating circulation of air and preventing the unnecessary opening of heads by banked heat. Should a head open under such conditions in a place away from the exposure, tongs should be inserted. The valves should never be shut off until all danger of communication is passed. Should a head open at an exposure, where its operation is essential, the floor immediately below should be bagged with covers and an effort made to prevent the water from spreading.

Rekindling with System Shut Off

Another frequent case of unsatisfactory sprinklered fires is that of rekindling with the system shut off. It is advisable after fires in sprinklered buildings, to replace the heads and place the system back in operation before leaving the premises, where dry valves are involved, it is often possible, under summer conditions, to set them up wet. When freezing prohibits this procedure, the system should be left in charge of an experienced man until the dry valve has been reset, with orders to open the valve and turn in an alarm in the event of a recurring fire. On an inspection it is well to place a tag on the dry valve setting forth the name of the engineer, together with his telephone number so he can be readily notified in the event of fire during the night. The procedure of leaving a man until the dry system can be reset has proven a valuable precaution on several occasions where rekindles have occurred.

Handling Frozen Sprinkler Equipments

Fire companies receive many calls during the winter months where frozen sprinkler equipments have caused bursting of pipes

* From a paper read before the annual convention of the International Association of Fire Chiefs, at Portland, Oregon.

"CAREFUL and frequent inspection of sprinkler equipments and advice to those responsible for their maintenance are the most effective means of reducing the number of unsatisfactory sprinkler fires."

and consequently water flow signals. To leave a system in this condition by closing off valves is an easy method, but often contributes to the list of unsatisfactory sprinklered fires. Where small portions of piping have been structurally damaged, the pipes should be removed and the end capped or plugged. Standard caps and plugs should be carried by all fire departments. A reinspection, after a reasonable time, should be made to be certain that the proper repairs have been made.

Should Investigate All Unsatisfactory Fires

In order to keep a good record of sprinkler operations at fires for the guidance of engineers and others interested in sprinkler protection, it is well to make an immediate investigation to determine the cause of all unsatisfactory sprinklered fires. It has been found that evidence of carelessness is frequently removed and every attempt made by persons responsible for the maintenance of the equipment to conceal the cause of failure. It is also well to interrogate persons in charge before they have had an opportunity to consult with one another to agree upon a common explanation.

Should Use Judgment in Connecting First Line

In many fire departments the rules and regulations require company officers to stretch the first line or the second line of the siamese connection of the system and charge same. In my opinion the direct order to stretch a certain specified line to a sprinkler equipment under all conditions is an error. Such departmental orders are occasioned by and may be partially justified by previous experience in sprinkler failures. At best the practice is a makeshift to compensate for the lack of good judgment on behalf of the officer in charge. If fire officers are properly trained to handle fires in sprinklered risks there would be no cause for a uniform practice of this nature. The rule should be flexible and allow a fire officer in charge to use his judgment. In justification of my opinion I submit the following:

If a sprinkler system is functioning properly a line placed in the siamese immediately upon the arrival cannot assist matters materially. If the system is not functioning properly it may be due to a floor shutoff valve being closed, a system crippled by explosion or to other such causes, in which event the time consumed in stretching the line is lost. I agree that the first line in the siamese would be an excellent move in cases where the tanks or pumps have failed, or the main control has been shut off.

Should a fire indicate that a large number of heads (assume 50) had fused, placing the first line in the sprinkler siamese, is a useless procedure if a second line is taken off the engine to fight the fire direct. In other words, both lines would be ineffective in their respective positions.

In a case of this kind either the two lines of the first arriving company should be placed in the system or the lines should be used with nozzles to protect exposures, in which event it may be good judgment to place the two lines from the second arriving fire company into the siamese. In any event placing one line into the sprinkler equipment under the above conditions, and using a second line for other purposes is poor policy.

Remedy for Failure in Education of Officers

Fires occur under so many different conditions, and sprinklers may fail from so many causes, that the remedy lies, not in a specific rule that requires placing a line in the sprinkler equipment, but in education of fire officers in all the phases of sprinkler protection.

Fire department operations are so varied and decisions require such haste that errors frequently result. No fire officer is immune from error and some of these errors result disastrously. Many errors, if brought to light, would be of benefit to others, who may find themselves faced with similar conditions and very probably, would err in the same manner. Open and constructive criticism of officers in charge at such fires, not only of their inspection work, but also of their methods of operation, should be practiced.

Careful and frequent inspection of sprinkler equipments and advice to those responsible for their maintenance are the most effective means of reducing the number of unsatisfactory sprinkler fires. These ends may be brought about by cooperation of fire departments and the engineering departments of Boards of Underwriters and Inspection Bureans. It is essential that the owners of the properties be properly informed concerning the functions of a sprinkler equipment and in particular concerning the things which must be avoided in order to assure its satisfactory operation. It is especially important that the engineer in charge of the equipment be a capable man and that he be thoroughly familiar with the methods necessary for proper maintenance and operation of the equipment. It is the duty both of inspection bureaus and fire departments to carry on this campaign of education.

The procedure here outlined would also assist to reduce the number of fires, and advance the science of fire fighting toward that plane which the International Association of Fire Chiefs ultimately hopes to attain.

Chief Alex. Henderson Retires

Chief Alex. Henderson of Kansas City, Mo., retired from the service after fifty-three years in the fire department. He retired officially on September 1.

But Chief Henderson will still be in the city employ. He will be made a special fire prevention inspector at a salary of $3,000 and furnished with a motor car. He will be directly responsible to the director of the fire department. As chief, Mr. Henderson's salary was $4,700.

Ex-Chief Alex. Henderson

The chief is nearly 70 years old. His Scotch parents moved to New York shortly before he was born and died soon afterwards so that the chief had to face life as an orphan. He went to Canada to live with his grandparents.

Henderson came to Kansas City in 1869 as a jockey. Later he worked in construction work as a mule driver and then joined the fire department in 1874.

Perhaps the greatest moment in the career of Chief Henderson was when the famous white team of horses drilled by him won the fire-fighting contest held in London and later won the international event at the contests held in Paris. Chief Henderson has taken an active part in firemen's organizations and is well known throughout the country.

Assistant Chief Dan Donovan is advanced to head of the department. He has seen forty years' service in the fire-fighting profession.

Cost of Fighting Mine Fire Estimated at $1,000 an Hour

An explosion which burned ten of a party of eighteen in a mine at Connellsville, W. Va., started a fire which is believed will require at least a week to extinguish. The mine is known as Mine No. 1 and is controlled by the Connellsville By-Products Company. Emergency pump lines are pouring in water into the mines at the rate of 7,000 gallons a minute at a cost of about $1,000 a hour. About six acres of coal in the mine are ablaze.

Baltimore, Md., County Men Hold Meeting—The annual convention of the Baltimore, Md., County Volunteer Fire Companies was held on August 25 at Lutherville, Md. A three-day carnival was held in conjunction with the convention.

Miles City, Mont., Levies Firemen's Fund—The council of Miles City, Mont., passed an ordinance to levy a one-tenth mill tax to provide additional income for the disability fund maintained by the fire department. This was permitted by a new state law which described the steps to be taken in such an emergency.

WITH THE EDITOR

Efficiency in Fire Inspection

The fireman detailed to do inspection work must use his head, must be able to absorb details quickly and at a glance and must school his memory to retain the points he has observed on his visits. He must also be prepared to give intelligent suggestions to the owners of the premises visited, along fire prevention lines, and to answer questions which may occur to the individuals upon whom he calls.

A great advantage to the inspector is to be able to draw well enough to sketch at least a rough outline of the floor plans of the building inspected, so as to better retain an idea of the layout for future reference or in case a fire occurs later on. Such plans filed with the department records will be found of immense advantage to the officers and men in studying the buildings and hazards of their district.

One of the most important qualities for the inspector to cultivate is diplomacy and evenness of temper. He should study the art of smoothing over the rough places in his work, and know how to show an unreasonable owner or tenant the error of his (or her) way, without producing necessary friction in the doing of it. By this means he can make friends for his department where uncalled for bruskness might well create enemies. This is by no means an impossible task, if it is gone about in the right way, but it often requires an immense amount of patience and tact. And it needs quite a bit of study in self-control to attain this attitude of mind.

Taken all in all, fire inspection calls for no little study by officers and men, if it is to be so performed as to be a benefit both to the fire department and the city.

Gifts Should Not Be Made a Burden

Presentation to superior officers by members of the rank and file of badges or other gifts, on the occasion of some anniversary in the officer's career or similar occasion, are of great value, when such gifts express the regard of the men for those who are placed over them. Acts of this kind tend to bring the officers and men in closer touch, and increase alike the spirit and comraderie of the organization.

But such expressions of good will and respect entirely lose their meaning when they become unnecessarily extravagant and an unwilling burden upon the slim pocketbooks of the firemen.

In this issue we publish a letter signed "Firemen's Friend" relative to the subject of making such gifts. For obvious reasons we withhold from public identity the name of the author of the letter, but we know who he is and have confidence in his integrity and responsibility for what he writes. While FIRE ENGINEERING has long been familiar with this gift-giving custom, it has never been so forcefully described as by our correspondent in this issue.

It would seem high time that a happy medium were reached in this situation and somewhere an average struck whereby expressions or tokens of esteem and good-will were confined to reasonable limits, for after all, sentiment, affection, and comraderie cannot and should not be measured in dollars or diamonds. It is all too well known that firemen as a class haven't money to squander. Their various petitions for salary increases have never failed to recite in the minutest detail the need for every penny's worth of additional compensation, yet like so many mild sheep they too frequently are driven into an expenditure which the shepherd thanks them the least for and gives the most credit (privately) to the "dog."

FIRE ENGINEERING does not believe that gifts are injurious to the *espirit de corps*. Quite the contrary. But it does take the position that the morale is not improved any when men go beyond their normal means to express friendship.

"Give 'till it hurts" was a terse war-time slogan, but the war is over. Fire Department executives and administrative officers owe it to those under their charge to protect them against themselves, and put down a firm foot on any wanton and reckless expenditures for tokens of service rendered. If they will do this, they will ever be the recipients of the silent gratitude and distant approbation of a multitude of fire fighters and their families.

Hazard of Smoking in Theatres

In several of the large cities smoking is permitted in the auditoriums of theatres and moving picture houses. On the other hand this practice is usually forbidden in property rooms, paint rooms, carpenter shops, scene docks, locker and dressing rooms, engine and boiler rooms and under the stage. Yet in an equally dangerous part—the auditorium—it is allowed. This fact with the ever increasing use of cigarettes by both sexes, constitutes a great hazard. Particularly is this the case where the audience is composed largely of women, dressed in flimsy and inflammable stuffs.

It does not require a great stretch of the imagination to conceive what is likely to happen at any time in such a situation, in the event of the clothing of an individual taking fire from a carelessly dropped match or cigarette, especially if the crowd should be congested in the aisle during the exit after a performance.

The danger is greatly increased by the presence in

the auditorium of combustible drapery, upholstery and floor coverings, but of course the greatest peril in cases of this kind is that of panic and stampede of the audience. History of all theatre fires proves that the greatest danger is from the audience losing control of itself and giving way to blind terror.

If the practice of smoking in any part of the theatre except the smoking rooms is not forbidden, the result will almost inevitably—sooner or later—be another dreadful holocaust, with loss of many precious lives and the maiming of perhaps hundreds of others. The stopping of this practice would be a long forward step in the direction of fire safety and of the preservation of life. It should be taken at once by the proper authorities.

NEW INTERNATIONAL DIRECTORS

Chiefs Charlesworth and Brosnan Chosen as I.A.F.C. Directors; Chief Gerstung Heads Exhibit Committee

THE appointment of Chief Frank Charlesworth of Providence, R. I., and Chief D. W. Brosnan of Albany, Ga., as Directors of the International Association of Fire Chiefs, has just been announced by the President, Chief Ross B. Davis of Philadelphia.

Chief Charlesworth was appointed for a full three year term, succeeding Ex-Chief John Wray of El Paso, Texas. Chief Brosnan will serve for one year, filling the unexpired term of Chief Ralph Scott of Los Angeles who was elected to the Second Vice-Presidency at the Portland Convention. The third director, Chief John Kenlon, of New York, continues in office.

As Chairman of the Exhibit Committee for the ensuing year, President Davis has selected Chief August Gerstung of Elizabeth, N. J.

It is probable that a meeting of the officers and directors will be held at Philadelphia, next year's convention city, the latter part of October.

Chief D. W. Brosnan,
Director,
Albany, Ga.

Chief August Gerstung,
Chairman Exhibit Committee,
Elizabeth, N. J.

Chief Frank Charlesworth,
Director,
Providence, R. I.

Fire Protection at Mt. Vernon

Mt. Vernon has an intrinsic value to the American people. It was the home of George Washington and is located on the Potomic river not far from the federal government buildings. Consideration has been given to the protection of this historical building from fire, as the nearest organized fire department is at Alexandria, Va., six miles away.

Guards, gardeners and other employees of the place have been organized into a volunteer fire-fighting organization under the leadership of James Rouse.

No change has been made in the building or grounds, as far as the visitor can see, to install the various fire-protecting features. A concrete floor has been placed in the ice house and there are several hose wagons while at one side is a firemen's brass sliding pole which leads to the basement where the fire pumps are located. These pumps force water through the six-inch mains going to the various parts of the grounds. The 750-gallon pumps supply water at one hundred pounds pressure. There is a reservoir containing 250,000 gallons of water.

A modern fire alarm headquarters is located in the back room of the gardener's house. This is the central point of the fire alarm system that spreads out to the seventeen buildings on the grounds. The place is divided into six zones—the mansion, kitchen, south lane buildings, north lane buildings, east quarters and west quarters.

The Garrison fire detecting system is used and should a fire occur, the alarm is sounded on siren which is mounted in the crotch of an old elm tree. Visible indication of the location of the fire is recorded on the fire alarm panel board. The siren gives the location of the fire by means of prearranged signals.

During the night, there is always a watchman at firealarm headquarters while another patrols the grounds—the majority of the guards and workmen sleep in what is known as the bungalow colony. This is a little village located about three-fourths of a mile to the west of the plantation buildings. A duplicate siren is installed at this point and fire bells are located in the sleeping rooms of the officers of the volunteer department.

Transportation, in case of fire, is by means of a special automobile that is always kept there.

No overhead wires are visible as that would mar the appearance of the property; underground cable is used. Fire detecting wire in the building was placed so that it would not be noticeable. Before the wire was placed it was painted a color similar to that of the moulding.

Throughout the grounds are break-glass type fire alarm boxes to report exposure fires. The boxes are concealed beneath growing ivy or bushes and only the employees know where they are located.

In this way means have been taken to protect the historical shrine from without fire without marring its beauty.

QUESTIONS AND ANSWERS

Conducted by FRED SHEPPERD, B. Sc., M. E.

"He that questioneth much shall learn much"—BACON

NOTE—Readers of FIRE ENGINEERING are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified.

Rural Fire Protection

To the Editor:

This town is trying to work out a system of fire protection for a certain district which will have but meagre hydrant pressure for years. The main thoroughfare runs parallel with a river which is about one hundred feet away. The roadway is about fifteen feet above the low water mark.

I have read of pipe being laid from the water to a hydrant so that a pumper could take water from it. Can you give me information on such a layout?

There are but few places where we could build a runway to the water and it would be an expensive procedure. In addition the roadway would have to be kept clear of snow in the winter time.

Very truly yours,

F. S. S.

Answer: We haven't a list of places where they obtain their fire protection water supply in the manner you have described. However, the system that you mention is being used and in addition, some of the places that are remote from a natural water supply and do not have a water distribution system, are digging cisterns from which water is obtained in case of fire.

In accordance with your plan it will not be necessary to erect runways. A pipe line from the river is set far enough back from the river edge to permit easy access to the fire department. The pipe is connected with a hydrant of some suitable design. The pipe that is submerged in the water should be placed two feet or more below the low level water mark of the river so that water could be sucked up without drawing air into the pumper. In addition there should be a fish trap or screen of some kind to prevent foreign matter and trash from being drawn up into the pumper.

You should consider yourself fortunate in having the river parallel one of your main highways. In that way your town will not have to worry about the expense of digging cisterns to supply water to the pumpers. At various points along the bank of the river, lay the pipe as described and connect it to a hydrant set a few feet back.

It is impossible to say just how far apart the hydrants should be as that depends upon the density and the type of the building construction.

This plan should give your town some protection even though the water distribution system is not adequate.

New York Fire Questions

To the Editor:

Will you please answer the following questions:

What is the duty of a commanding officer when work of overhauling is going on?

To what height may a line be advantageously stretched up to fire escape? What hose would you use?

Explain the difference in procedure in stretching a charged line up a ladder and in backing down. Also for a empty line.

Yours very truly,

A S.

Answer: It is the duty of the commanding officer when overhauling at a fire to look out for the safety of his men so as to do the work with the least possible danger to his men and with as little damage as possible.

In looking after the safety of his men, the officer should be sure that the place is safe for the process of overhauling. He should also see that heavy objects are moved toward the walls or to other points where floor supports are uninjured so as to eliminate the chances of the weight crashing through. He should also see that the water is drained off to prevent the damage to merchandise on floors below.

In the absence of a salvage corps, the officer should keep on the alert to see that there is no unnecessary damage to materials, the breaking of glass or doors, or damage to decorations.

Some cities which stretch the hose up through the fire escape figure that the fifth floor is the highest point to which a line can be stretched advantageously, while in cities where the hose is stretched up along the outside of the fire escapes, the eighth or tenth floor is considered within the range of the department.

As a general rule where hose is stretched up through the fire escape (following the stairs up), the fifth floor would be considered the maximum height to which it could be advantageously laid in this manner. For this work, 3-inch hose is too unwieldy.

It is not good practice to carry charged lines up ladders more than 25 feet—or in other words the charged lines should not be carried higher than the third story window.

In stretching a charged line up a ladder and operating in a third story window after a sufficient amount of hose is laid out, the line is connected to the hydrant, the nozzle screwed on and the hydrant opened. The line is now charged.

Fireman No. 1 places hose ropes on the line back of the nozzle. Fireman No. 2 places his rope on line twelve feet back of No. 1. The third man places his rope twelve feet back of No. 2 and the fourth and fifth assist by lightening up on the line.

The No. 1 man takes hold of the handle of the hose rope in his right hand and grasps the leather holder on the nozzle with the same hand if it is equipped with a holder. He then starts ascending the ladder with No. 2 and 3 following and pulling up with their hose ropes. The sixth man is at the bottom of the ladder helping by placing his arm around the hose and boosting it up with both hands. The fourth and fifth man pull on their straps moving the hose towards the ladder.

When No. 1 is about even with the sill of the third story window, he takes a leg hold on the ladder and when the nozzle is up about even with his head, he calls to the men below on the ladder to hold on. Hooks of the hose ropes are then placed on the rungs of the ladder by No. 2 and 3. Number one grasps the tip of the nozzle with his left hand and the hose with his right hand; he bends the hose and pulls the nozzle down and puts it through the rungs where his left leg is. He then reaches over a run with his right hand and gets hold of the handle of his hose rope and places the hook on the next rung. He finally reaches through, grasps the nozzle with both hands, opens the nozzle and operates the stream.

In ascending and descending a ladder with a charged line, the men lay close to the rungs grasping them with the left hand and pulling the line up with the right hand. The major part of the work in stretching the line up the ladder falls to Nos. 2, 3 and 6.

To take the charged line down, No. 1 shuts off the nozzle and removes the hook of the hose rope from the rungs and backs the nozzle out from between the rungs. He lays it straight up against the rungs of the ladder; he descends about two rungs at a time so that the nozzle is at his hip. Nos. 2 and 3 grasp the handles of the hose rope and the line is shifted up so that they can release the hooks from the rungs. The three men descend with the line to the ground. The sixth man holds the line tight up against the rungs as they descend.

In stretching an empty line up a ladder, the 45-foot ladder is placed to the fourth-story window. The first man takes the end of the line and places his rope on the hose just back of the coupling and moves to the bottom of the ladder. He connects the nozzle on to the hose and placing the hose over his shoulder, he ascends the ladder.

No. 2 takes his position about twelve feet back with the hose on his right shoulder and follows the first man up the ladder. No. 3 takes his hold about fifteen back of the second man and places the hose over the right shoulder and follows on up. No. 4 is back of No. 3 and lightens up on the hose while No. 5 is at the bottom of the ladder to see that the hose is resting flat up against the ladder.

When No. 1 gets opposite the window sill at the third-story, he takes a leg hold on the ladder. He removes the nozzle from his shoulder and places it between the rungs where his left leg is and holds it with his right hand. He then reaches through over the next rung above with his right hand and gets the handle of the rope and places the hook on the next rung above. He then gets both hands on the nozzle and calls for water.

At the time when No. 1 takes a leg hold on the ladder, No. 2 does the same. When No. 1 calls for water, No. 2 places his hook over a rung and slides his loop off his shoulder and down

the ladder. While No. 2 is doing this, No. 3 descends to the ground and removes his loop from his shoulder and places his hose rope on the hose; he hooks it on the ladder up about five feet from the ground. Both Nos. 4 and 5 straighten the hose out at the bottom of the ladder. No. 6 at the hydrant opens the hydrant when the first man calls for water.

In taking down the line, No. 6 shuts down at the hydrant. The fifth man breaks the line on length back from the ladder. No. 4 takes a loop of the hose on his shoulder and moves towards the ladder so that No. 3 can take his hose rope off the line. No. 3 then takes a loop of the hose on his shoulder and ascends about five rungs while No. 2 descends about four rungs with a loop of hose on his shoulder. He ascends to his hose rope and takes a leg hold on the ladder.

The first man removes the hook of his hose from the rung, pulls out the nozzle and places it over his shoulder and releases his leg hold on the ladder. No. 2 takes his hook off the rung and removes the hose rope from the hose. He releases his leg hold on the ladder and the three men descend to the ground.

Vacuum in Pumping

To the Editor:

We have recently purchased a pumper and many of the things are new to me. Will you please tell what is meant by the vacuum of the pump and does this increase with the depth that the pumping is drafting?

How can I calculate the vacuum in inches that should be shown on the vacuum gauge if the length of the suction and the size are given?

Yours truly,

A. E.

Answer: In drafting water, a line of hard rubber suction is lowered into the body of water from which the pump will obtain its supply. The water inside the hose is at the same level as the water on the outside of the line. The air presses down on the surface of the water both inside and out with a pressure equal to 14.7 pounds per square inch. In drafting the water, the pump first removes the air from the water level inside of the hose so that the pressure on the water on the outside of the hose will be greater than that on the inside. The pressure on the outside will force the water to go up and it will flow up to the point of discharge as the air inside of the hose is removed.

An indication of the amount of vacuum produced may be noted by reading the vacuum gauge. Most firemen are familiar with the pressure gauge which records the pressure in pounds per square inch. The reading of the vacuum gauge is given in inches of mercury. One inch of mercury will support a column of water of similar diameter 13.59 inches high. For the sake of illustration, let us suppose that the reading on the vacuum gauge was ten. That means that the pump was forcing water up through a distance equal to 13.59 x 10 or 135.9 inches or 11.3 feet. That is the theoretical height through which the pump is lifting the water.

Actually the figure is wrong. Whenever water flows through a hose line some friction is created which requires some pressure to overcome. The size of the vacuum computed will therefore be greater than the one indicated by the vacuum gauge.

To put the data in the form of a rule, to find the inches of vacuum, multiply the vertical distance through which the water is being drafted (the vertical distance from the level of the water in the lake to the center line of the intake of the pump) by 12 and then divide the answer by 13.59.

The greater the vertical distance through which the pump is drafting, the greater will be the resulting vacuum. Many firemen make the mistake in thinking that the deeper down that the line of hard suction is dropped into the lake, the greater will be the resulting vacuum. When a line is dropped in such a manner, the water inside the hose is the same level as that of the lake. The depth of the suction below the level of the water does not count as the work done in lifting the water commences from the point of the normal water level. However should the water level drop that is another matter.

To an experienced pump operator the suction gauge reading indicates if the strainer at the end of the line has become clogged or if there are any air leaks in the hose.

Extinguisher Operation

To the Editor:

I am pleased to note your excellent and correct answer to the question of the explosion of the extinguisher on page 488 of your paper of May 18th.

I think it would be well for you to call attention to the fact that the last few spoonfuls of the liquid charge of most of the "To Play Turn Bottom Up" type of extinguishers are likely at times to be strongly acid. Both firemen and fabrics have suffered from this cause, as well as such extinguishers as were not promptly washed out or recharged after use.

When a "tip-over" extinguisher is used, the gas pressure may be generated fast enough to prevent the inverted acid bottle from completely emptying. Diffusion of the soda solution, into the open mouth of the bottle, cannot take place sufficiently to cause complete discharge of the acid against the extinguisher pressure nor to complete the neutralization of the strong acid in the bottle.

Just before the pressure goes flat, the last remnant of rather strong acid is ejected into the small quantity of spent soda solution remaining, causing the extinguisher to cough a few last drops of strongly acid sulphate of soda solution, and leaving a little such solution in the extinguisher.

This last residue will, if left in the extinguisher, attack the metal thereof, generating hydrogen as you say, and it furthermore acts to mechanically weaken the resistance against pressure for subsequent use.

Bad extinguisher "housekeeping" may not only cause a curiosity impelled hydrogen explosion as related; but a bonafide working pressure explosion of the extinguisher at a subsequent fire; analoguous to a corroded boiler.

Furthermore, at a fire where the extinguisher is played on to anything salvageable, the last few squirts better be directed where sulphuric acid will do the least damage.

You can easily have my statements verified by test of a few "tip-over" type extinguishers. When the extinguisher is tipped only once, and held fairly stationary, I think the maximum amount of acid is delivered in the last spasm. When however the discharge is varied, either by tipping back or by shutting the nozzle, especially while the extinguisher is yet more than half full, more of the acid gets out of the bottle before the excess of soda is discharged, and the effect described is much less marked or totally absent.

Under some circumstances, a very small quantity of acid may be discharged with nearly the first squirt of an extinguisher but as it is immediately followed by a mixture having an excess of soda, little harm results, particularly as what it first hits is usually already pretty well destroyed by fire.

This does not mean that I hold any brief for the break bottle or tip-over-bottle types of extinguisher, I prefer the Underwriters Type, in spite of its possible acidity, except for use at brush fires on rough, precipitous slopes. In such places the break bottle does not discharge till you want it to; but a misstep may cause the loss of a large part of the charge of a tip-over type, as well as of tempers like mine.

Yours very truly,

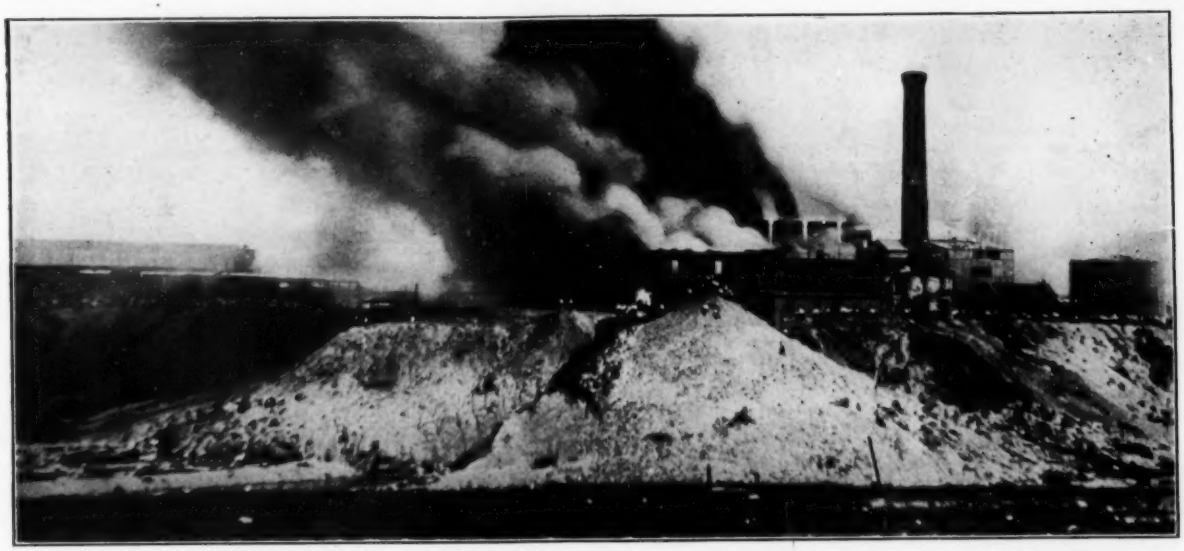
B. B. L.

Ladies' Fire Company Serves Silver Springs, Md.

A little town just outside of Washington, D. C., boasts of what is believed to be the only fire company manned by women. This organization in Silver Springs, Md., is not for show it is claimed—they actually fight fires and are here shown putting out a fire in a burning automobile. The ladies still consider that low cut shoes are more comfortable than rubber boots. The women's department is entirely volunteer and was organized in May, 1915. It has a chief and the other officers that are required to properly conduct the serious business of fire-fighting.

Batavia, Ill., Receives New Apparatus—Batavia, Ill., has received its new Peter Pirsch fire apparatus which was purchased at a cost of $7,500.

Mamaroneck, N. Y., to Sell Old Apparatus—The old steam engine and the ladder truck of Mamaroneck, N. Y., are to be sold in order to make room for the new apparatus that will arrive in September.

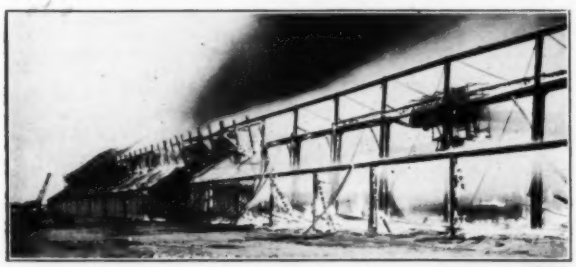


Flames Which Almost Completely Destroyed the Big Brick Plant Near the Chicago City Limits, with $200,000 Loss.

BRICK PLANT FIRE IN VACANT LOT NECESSITATES LONG LINES OF HOSE

Chicago Firemen Greatly Hampered by Necessity to Use Relay Pumpers—Also Delay in Sending in Alarm

A THREE alarm fire which contained unusual elements of difficulty for the Chicago fire fighters, under command of Deputy Fire Marshal Michael J. Corrigan, occurred at the big brick plant of the Bohnsack Fire Company, on the west side near the city limits, on August 4. The plant consisted of a number of structures, including dry kilns, storage sheds, three oil tanks and office buildings, and covered approximately 1,000 feet in length by some 200 to 500 feet in width. The structures were situated in the center of a plot of ground about a half mile wide and the same size in length.



One of the Big Storage Sheds of the Bohnsack Brick Company, Chicago, Burning and Nearly Destroyed with Only the Framework Left.

This view was taken before the arrival of the first alarm companies, showing the rapid spread of the flames.

The buildings were of one and two stories in height, of frame and brick construction. The fire apparently started some 200 feet north of the southern end of the sheds, from a cause unknown, and had evidently gained great headway before the first alarm—a still—was received. The smaller illustration herewith—taken before the arrival of the first alarm companies—graphically shows this. About 300 to 400 feet of sheds and faces and dry kilns were burning when the firemen came upon the scene.

This still alarm was received at 6:36 p. m., followed at 6:37 by a box call. The second alarm was sent in at 6:47 and the third at 6:49. This brought to the scene 120 firemen and 13 Ahrens-Fox, Seagrave and Mack pumpers.

As will be seen by the diagram, the situation of the plant necessitated the stretching of lines from the 4" and 4½" hydrants all the way from 800 to 1,400 feet, relay engines being used in several instances. Three pumpers utilized a small reservoir on the grounds, drafting water from it, with lines respectively of 250, 400 and 500 feet.

Ten engine streams were thrown, using 10,600 feet of cotton, rubber lined hose, with a 6" street main to draw from. The nozzles used were 1⅛ and 1¼ inches. The hydrant pressure was 15 pounds. The shaded portion of the diagram shows the part of the plant destroyed.

The fire burned for eleven hours before it was brought under control, the loss on the buildings, valued at $400,000, being $150,000, and that of the contents, valued at $200,000, being $50,000.

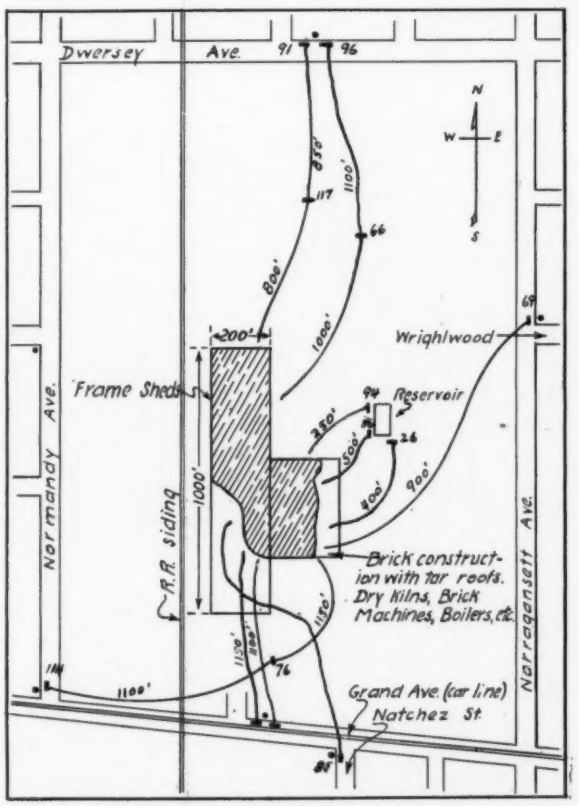


Diagram of the Brick Plant Fire at Chicago, Prepared by Capt. David Anderson, of Engine 43.

Note the great length of lines necessitated by the situation of the plant in the center of the vacant plot approximately half mile wide by half mile long.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands.

Week Ending Aug. 26.

TROY, N. Y.—Brown Bros. Rubber Co. bldg., damaged..... 55
WHITBY, ONT.—All Saints Anglican Church gutted..... 30
ASBURY PARK, N. J.—Grill room of Hotel Monterey on Boardwalk 45
NORTONBURG, IND.—M. A. Holder grain elevator..... 25
LOUISVILLE, KY.—Warehouse at plant of R. B. Tyler Co.... 25
CLEVELAND, OHIO—Paint shop of Cleveland Auto Enamel Co. 25
CHARLEROI, PA.—Towboat Volcano of Hillman Coal & Coke Co. 95
SEEKONK, R. I.—Three-story wooden tenement house..... 25
UKIAH, CAL.—Hartsook Inn destroyed..... 90
WOODRIVER, ILL.—Crude oil tanks of Standard Oil Refinery.. 30
MANHATTAN, ILL.—Consumes Hardware Co. building..... 45
LANSING, MICH.—Warehouse of J. Gruman..... 25
NO. ATTLEBORO, MASS.—Lanten of the White Duck, an inn.. 60
BUFFALO, N. Y.—Florida Hotel Hofbrau restaurant..... 95
POMEROY, OHIO—Ten business bldgs. and one residence.... 195
PHILADELPHIA, PA.—Barns and outbuildings of W. Farley farm 30
APPALACHIA, VA.—City block destroyed..... 195
SHREVEPORT, LA.—Barn and truck shed of Caddo Transfer & Warehouse Co. 25
SHERBURNE, N. Y.Barn on farm of Chas. H. Boos..... 25
HUGHESTOWN, PA.—Two apartment houses and store..... 55
GOLDEN'S BRIDGE, N. Y.—Three cottages at Lake Waccabuc. 45
BRISTOL, CONN.—Grain elevator of Bristol Grain & Supply Co. 45
OWOSSO, MICH.—Farm buildings on farm of J. Carruthers... 25
FT. WORTH, TEX.—Jackson's a women's ready-to-wear store. 25
WEIPPE, IDA.—Business block 50
CARLINVILLE, ILL.—Main hall of boys' dormitory at Blackburn College 100
JEFFERSON, TEX.—Warehouse of Morgan Mfg. Co..... 35
PORT HURON, MICH.—Plant No. 3 of Holmes Fdry. Co..... 25
NASHVILLE, TENN.—Broadway Battery & Repair Shop..... 45
TROY, N. Y.—Warehouse of Brown Bros..... 50
EAST GRAY, ME.—Flour and grain mill..... 35
WINDSOR, CONN.—Four 7-acre tobacco sheds of American Tobacco Co. 95
E. ST. LOUIS, ILL.—Two 5-room bungalows under construction 40
BOSTON, MASS.—Top floor of 5-story building at Schollay Square 70
HOLCOMB, MISS.—Business district destroyed..... 75

Week Ending September 2

NACOGDOCHES, TEX.—Planer of . E. Stone Lumber Co..... 80
STOCKTON, CAL.—Property of Island Transportation Co..... 110
SUMTER, S. C.—Banner Tobacco Warehouse destroyed..... 25
SPRINGFIELD, ILL.—Warehouse, Schafer Flour & Feed Co.. 25
WASHINGTON, IND.—Daviss County Courthouse..... 600
RUTLAND, MASS.—State Prison Farm Buildings..... 35
WORCESTER, MAS.—Laundry of Joseph Muir destroyed..... 30
DUQUESNE, PA.—Entire city block destroyed..... 170
GREENVILLE, ALA.—Warehouse and several dwellings..... 40
BRANCHVILLE, N. J.—Bldg. of Branchville Supply Co..... 50
LEXINGTON, TENN.—High school destroyed..... 70
RIDGEFIELD, N. J.—Plant of Continental Paper Co..... 40
TOLEDO, O.—Business establishments—down town section.... 40
LOCKWOOD, MO.—Commercial Hotel..... 40
CELINA, O.—Plant of Celina Specialty Co..... 200
BEAVER DAM, KY.—Business houses destroyed..... 100
OKEECHOBEE, FLA.—Sawmill of P. Tomasello, Jr..... 40
GRAND TOWER, ILL.—Residence Dr. M. W. Bausinger..... 25
AUGUSTA, KANS.—Masonic Hall, adjacent property..... 25
GREENVILLE, S. C.—Warehouse, F. W. Poe Company..... 30
CHICAGO, ILL.—Weiman Co. Bldg., W. 22nd St..... 40
MALVERN, IA.—Malvern Cold Storage Plant..... 80
WINDSOR, CONN.—Sheds of American Sumatra Tobbaco Co.. 80
MORTON, ILL.—Property of Morton Pottery Co..... 40
WRIGHT CITY, OKLA.—Choctaw Lumber Co. property..... 125
TEXAS CITY, TEX.—Cotton warehouse, Pier B..... 165
NEW ORLEANS, LA.—Warehouse of Schmidt & Zeigler..... 100
PALESTINE, TEX.—Sawmill of Weaver, Thompson Lumber Co. 40
MOUNT OLIVE, N. C.—Store of M. W. Pope..... 25

Suggestions for Arson Prosecutions

The following practical suggestions as to the best procedure in collecting evidence and preparing for the prosecution of arson suspects, are made by a well known authority on this important subject:

"In the collection of evidence it is well to use a note book and to write down the name and address of the party interviewed and the statements he makes. If possible, have him sign his name to the statements after they have been read to him. A Warden may place any one under oath administered by himself in order to discover any facts in regard to a forest fire.

"The evidence necessary to support criminal action for the violation of law must be clear, definite, and positive. It should be remembered that guilt must be proved beyond a reasonable doubt, and therefore the evidence necessary must be stronger than in civil cases for the collection of damages, where only a preponderance of the testimony is necessary to make out the case. Wardens are concerned with actions for violation of law.

"In all cases the name of the trespasser in full should be secured, his place of residence, correct, address, his occupation, his whereabouts before the fire, what he was doing at the time of the fire, and names of the witnesses who either saw the act or have knowledge of the circumstances previous or subsequent thereto. This means all facts connecting the party with the fire and includes exact dates.

"It is necessary to trace the movements of the trespasser prior to the time of the fire and also to show his movements thereafter, because they will in most cases have a bearing upon his previous actions. These facts tend to rebut any alibi which the trespasser may attempt to prove. In fact, the good handling of cases necessitates securing of facts to overcome a possible alibi.

"It may prove valuable at the time of the trial to have some information of the general reputation of the trespasser in the community in which he lives or in the vicinity of the fire; and, in addition, whether he is responsible for other fires in that vicinity.

"Affidavits of witnesses familiar with the facts should always be obtained. If they refuse to give affidavits, statements showing the facts to which they can testify should be furnished.

"In some cases the suspect may be found near the scene of the fire and admission or confession may be obtained from him in the presence of witnesses. In securing such confessions extreme care must be taken that the trespasser is not intimidated in any way or that he is not influenced by any promises of leniency. Such expressions as 'It will be better for you if you tell the truth,' or any of like character should never be used. The suspected man may be accused of setting the fire, but at the same time it would be preferable to tell him that anything he may say may be used against him.

"The reason for these precautions lies in the fact that confessions must be voluntary, and if they are not the court will refuse to allow them to be admitted as part of the evidence. The general rule is that confessions are voluntary when they are made by the person accused under such circumstances that his mind is entirely free from any influence either of fear or favor.

"If the result of your investigation or subsequent investigations by someone else developes that the person who started the fire can be held under the criminal law, then the Department expects to take action against that person or corporation. In many cases where criminal suit is not justified the Department is satisfied to present a bill for the cost of extinction. It is, therefore, especially important that the correct name and address of the person responsible for the fire be given.

Firemen Hurt in Trolley Crash

While riding to a fire, seven New York city firemen were injured when their truck was struck by a trolley car in Brooklyn. The crash threw all of the firemen from the truck and one of the men suffered from a compound fracture of the left leg. The truck was responding to a fire of minor importance.

Old Forge, N. Y., Receives New Pumper—A Foamite-Childs pumper has been delivered to Old Forge, N. Y.

Siren Installed in Sheridan, Ore.—A Sterling siren has been installed in Sheridan, Ore. N. McIntyre is chief of the department.

Fire Losses in Berkeley, Cal., Reduced—The report of the fire department of Berkeley, Cal., for the first six months of 1927 showed that the fire losses in the city have been reduced thirty-six per cent.

Fire Alarm Decreases Fire Losses—Last year, Mesa, Ariz., installed a Gamewell fire alarm system consisting of twenty-five fire alarm boxes. In commenting upon the marked decrease in the city, a large measure of credit is given to the fire alarm system.

Wheeling, W. Va., Two-Platoon System Tabled—Due to the low finances of Wheeling, W. Va., no immediate consideration can be given to the installation of the two platoon system. To install this would mean adding twenty-one men to the department and would increase the annual payroll by $45,000.

Pasadena, Cal., Has Low Fire Loss—With a per capita fire loss of 31.8 cents, Pasadena, Cal., believes that it has reached a new low loss in the country. For the fiscal year ending June 30 the loss was only $25,490. Last year the per capita loss was $1.78 so that the loss has been reduced 81.01 per cent. Chief Coop is asking for the erection of a building north of the central fire station to house the fire alarm system. He urges the city to buy at least one fire apparatus a year for the next ten years.

The Eastern Regulars on a brief stop-over at Yellowstone Park, en route to the Chiefs' Convention at Portland, Ore.

Practical Note at Chiefs' Convention

(*Continued from page* 940)

call was made, the time received, location of the fire and other details. A subsequent check-up, in the case of false alarms, often results in the apprehension of the miscreant. School children are explained the workings of this system, and as a result Bend has had but one false alarm in five years.

Use 1½-Inch Hose

The second question discussed at the Round Table dealt with the use of small sized hose. The question, as submitted, was as follows: "Is the use of 1½-inch lines of hose on residence fires considered good practice?"

Chief Stearns, of Bellingham, Wash., said it was the practice of his department to lay 1½-inch lines to all residential fires, backed up with a 2½-inch line. The usual method employed is to s retch in a 2½-inch line to a Y-connection located near the fire. To one branch of the Y is connected the 1½-inch line and to the other, the 2½-inch. Either or both lines may be used as desired.

Chief Ross Davis, of Philadelphia, related how 88% of all fires in his city were extinguished with small chemical lines. All such lines, however, are backed up with 2½-inch lines as a precautionary measure.

Battalion Chief Rogers, of Seattle, said his department had been using 1½-inch hose for about a year, and all trucks are now being equipped with it along with the other hose. "One man," said Chief Rogers, "can direct a ⅝-inch stream at 110 pounds pressure without difficulty. Seventy-five pounds is considered the minimum pressure on a ⅝-inch nozzle that will give a thoroughly good stream." Both the Y-connection and reducer connection are employed. With the Y, a single line of 2½-inch hose is laid to the Y with 1½-inch and 2½-inch branches, from which are stretched, respectively, 1½-inch and 2½-inch lines. With the other arrangement, a single line of 2½-inch hose is laid to a point near the fire and a shut-off nozzle attached thereto. Then the tip is removed from the nozzle and the 1½-inch hose connected. The use of 1½-inch hose cuts down the man power required greatly, according to Chief Rogers.

Former Chief Sam Short, of Oakland, said that in the Oakland department 80 to 100-gallon water tanks were placed on the pumpers, and 2-inch pipes installed to connect with pump. A reel on the back of each truck carries 200 feet of chemical hose. Water only is used in the chemical hose. The practice in that city is to lay a single line of 2½-inch hose to the fire and then branch off into two lines of 1½-inch. One man is placed at each nozzle and can easily handle it. The results, Chief Short said, have been most gratifying. The use of shut-off nozzles on the 1½-inch lines cuts the water damage tremendously.

Chief Ringer, of Minneapolis, said his department never enters a residence with anything larger than a 1½-inch line.

Chief Mantor, of Seattle, described a new development which is being worked out in his department. He is now placing 250 feet of 1½-inch hose on each ladder truck. When a fire is over, in a section where the response to alarms is light, the truck company uses this line for wetting down after a fire. The line is connected direct to a hydrant, which provides the necessary pressure. By this arrangement the engine company responding is released to return to its station just as soon as the fire has been darkened, the truck company finishing up the job.

Chief Johnson, of the Los Angeles County Fire Department, outlined the events which led up to replacing the chemical tanks on his 25 trucks with water tanks. Water tanks are now employed on all of his machines.

In answer to a question as to how water tanks on pumpers are protected against freezing in the colder latitudes during winter, Chief Armstrong, of Kingston, Ont., outlined the method he has employed with good effect. Heavy felt is placed over all piping and around the body of the tank, and over this is placed a leather covering. This arrangement has proved most effective, for since it was first adopted by the Kingston department no instance of freezing has ever been reported.

Fire Department Parades Opposed

The next Round Table question dealt with fire department parades. As submitted, it was as follows: "Our department has staged an annual fire department parade calling into action about half of our apparatus and most of the men on the off platoon. I understand some of the larger cities have abandoned the idea of parades. I am anxious to have the opinions of some of our chiefs on their attitude regarding fire department parades, and arguments for or against them."

Chief Holden, of Portland, offered the first comment, to the effect that he was opposed to fire department parades and, in fact, parades of any sort which tended to create traffic congestion.

Chief Sarran, of San Antonio, Tex., also opposed parades which include fire department apparatus. He said: "It is practically impossible to get apparatus out of a line of parade in an emergency, and for this reason we do not participate in any." He is likewise opposed to using fire apparatus in Fire Prevention parades.

Chief Armstrong, of Kingston, Ont., was of the same opinion, but called attention to the fact that frequently the chief is forced by local influences to permit apparatus to parade. He cited one instance where a fairly large city was left for two and one-half hours without protection by all apparatus and men being in parade.

Chief Evans, of New Orleans, related similar experiences of fire departments being forced to permit apparatus to appear in parades.

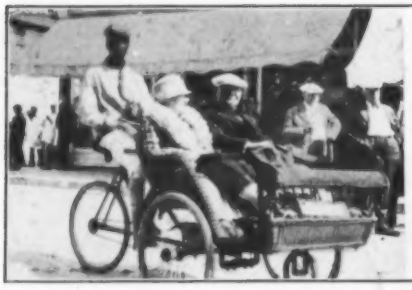
Dynamite in Fire Fighting

"Is the use of dynamite effective in checking conflagrations" was the next question presented at the Round Table.

In answering it, Chief Foster, of Astoria, Ore., described the great fire his city had in 1914, where the water main system was put out of commission. He used from 10 to 15 tons in checking the progress of the flames, and secured very satisfactory results in most cases. In a few instances, however, it was ineffective, particularly where the fire was passing beneath houses which were clear of the ground and beneath the plank streets.

Gasoline Fire Boats

The last feature on the Thursday afternoon program was a very comprehensive paper on "Gasoline Fire Boats," by Mr



Chief and Mrs. John Kenlon of New York go "motoring" at Mackinac Island.

Special Train "The Fire Chief" which carried the Eastern Regulars.

At Duluth the Fire Dept. band was at the station to greet the Eastern Regulars.

On the Way Home from the Fire Chiefs' Convention at Portland, Ore.

Walter Forward, of the Byron-Jackson Pump Co. Mr. Forward described in detail the construction and equipment features of a number of gasoline operated fire boats, and pointed out essential points in their make up.

His paper was discussed by Chief Louis Almgren, of San Diego; A. D. Merrill, naval architect; Chief L. G. Holden, Chief Ralph Scott and Chief Geo. Mantor.

Thursday evening was given over to a banquet and dance, tendered to the Association by the city of Portland. Speakers included the Governor of Oregon, I. L. Patterson; Mayor Geo. L. Baker, of Portland; Commissioner C. A. Bigelow of Portland; Association officials and others.

At the conclusion of the addresses, the Pacific Coast Association of Fire Chiefs presented to Chief Holden of the Portland department a handsomely upholstered sofa and chair, and a wild cat rug. At the same time the association presented Chief Geo. Mantor, the retiring president, with a fine travelling bag.

FRIDAY'S SESSION

The first paper of the Friday morning session was by Chief Lee G. Holden, of Portland, on the subject of "Modern Assignment Systems and Running Cards." This paper appeared in last week's issue of FIRE ENGINEERING.

Following Chief Holden's paper, Chief James Armstrong read a paper prepared by Chief Selden R. Allen, of Brookline, Mass., on "The Hazards of Shingle Roofing." Chief Allen was unable to be present. The paper developed much interesting discussion, and a vote of thanks was given the author for the excellent treatment of the subject.

A resolution was presented immediately after the reading of Chief Allen's paper condemning wood shingle roofs. The resolution is given below:

WHEREAS, The type of roofing material, commonly called wood shingles, when used as roof covering in closely built up areas is a very serious fire menace, and has on many occasions proven itself to be a conflagration breeder and a conflagration spreader.

THEREFORE BE IT RESOLVED, By the International Association of Fire Chiefs, in annual convention assembled, that this organization, in the best interest of the public welfare, is opposed to the continued use of wood shingles as roof covering within the boundries of incorporated cities and towns, and that it urges an enactment of laws or ordinances forbidding such use of wood shingles within the confines of all closely built up areas.

After discussion, the resolution was carried, but by a fairly close vote.

Secretary Mulcahey Presented with Chest

At this point, Executive Secretary Stevens took the platform, and made presentation of a handsome chest from the Pacific Coast Association of Fire Chiefs to Chief J. J. Mulcahey, Recording Secretary. The chest was made up of woods representing the many species grown in the Pacific Coast States.

Committee Reports

The National Memorial Committee appointed at the New Orleans convention reported progress. The committee was ordered continued for the ensuing year.

The Mount Vernon Fire Protection Committee submitted a report of their investigations, said report being ordered sent to the officials of the Daughters of the American Revolution who have charge of the shrine.

Progress was reported by the Constitution Revision Committee, and the committee was ordered continued for another year.

The Committee on Memorial Resolutions presented the usual resolution as to department members, listing those who had died since the last convention.

The Committee on Courtesies extended the appreciation of the Association to the Portland officials, the International Association of Police Chiefs, the ladies of Portland, the Elks Club, Knights of Columbus, fire department bands from the following cities: Los Angeles, Spokane, Fresno and Portland; and to others who aided in making the convention such a great success.

Private Alarm Connections Opposed

A resolution was submitted, under the order of new business, condemning the practice of connecting private fire alarm systems to municipal circuits. Resolution was carried.

Names to Be Omitted from Annual

Chief Mulcahey, Recording Secretary, pointed out that with the tremendous increase in membership of the association the listing of names of members in the Convention Annual would entail a great deal of unnecessary expense. After a short discussion a motion was made and carried to the effect that, in the next Annual, only the names of the officers of the International and divisional associations be included.

A Trunk for Chief Davis

At the completion of the program, President Mark E. Ryan, of the Pacific Coast Association of Fire Chiefs, presented in the name of that organization a fine big trunk to Chief Ross Davis, the newly elected International President. In making the presentation, Chief Ryan expressed the admiration and friendship of the Pacific Coast Chiefs for Chief Davis.

(NOTE.—*Accounts of other committee reports, the election of officers and the choice of Philadelphia as the next convention city appeared in last week's issue.*—EDITOR.)

Address of Police Chief O'Brien

The following is the paper of Police Chief Daniel J. O'Brien, of San Francisco, past president of the International Association of Chiefs of Police, which he submitted to the convention at Portland, and which was read in the absence of Chief O'Brien by Duncan Matheson, captain of detectives of San Francisco, and representing the Police Chiefs' Association. Chief O'Brien's paper was in discussion of the paper read by Chief John Kenlon of New York on Traffic Control at the Tuesday afternoon session.

City government departments can be likened to the human body, in that it takes all departments to coordinate and function smoothly as a whole to accomplish the best results. First the brain telegraphs the message to the hand or foot and the nerves, sinew and muscles whose work it is to move the particular member marshal themselves together to carry out the order from the brain. This is all done silently without ostentation and uncomplainingly and the resultant motion is accomplished in so short a time that the telegraphing of the order is not even apparent to the person himself.

So in the same ratio should city departments function, without protest or cavil. Usually when a member of either the fire or police department is needed there is a serious emergency and no time can be wasted to find out how urgent the need may be. The response must be instant, without any attempt being made to question the need, or the right or the wrong of it. After the emergency, or seeming emergency, has been taken care of, there is often plenty of time in which to argue the matter pro and con.

Cooperation Between Police and Fire Departments

The police and the fire departments of a municipality are considered the two basic and greatest factors of safety of both

persons and property, and close harmony with full measure of cooperation should exist between the rank and file of both lines of defense.

When a conflagration occurs it is imperative that the fire apparatus, with the fire-fighters get to the scene at the earliest possible moment, so they may function properly as fire-fighters and in the prevention of additional loss. It is not necessary for the members of the police department, except in rare cases, to assist in the actual extinguishing of the fire; but it is essential, and it is police duty to handle traffic in such a manner, with due consideration of the rules and regulations that the progress of the fire department personnel and apparatus will not be impeded in any way, as a slight delay even may mean the loss of many thousands of dollars worth of property.

At the scene of the fire when the apparatus is assembled for action, also it is the duty of the police officer to see that access to the fire hydrants is easy and not obstructed, nor the efforts of the fire-fighters interfered with the people getting in too close proximity to the fire itself.

Surveys should be made from time to time and recommendations made relative to the parking of vehicles in narrow streets that might prevent fire apparatus from going through. Police departments should by all means cooperate with fire departments in all matters of fire prevention and public safety, and all laws and ordinances of this nature be firmly enforced by the members of the police departments, so that fewer hazards will be presented to the firemen whose duties are sufficiently hazardous in any event.

Policemen Should be Auxiliary Firemen

There is a provision in the charter of the city and county of San Francisco whereby all police officers are declared to be health officers by virtue of their office. Each time I read this statement it has always occurred to me that it is incomplete, inasmuch as I think the makers of the charter should have made that clause read that members of the police department should be health officers and members of the fire department as well, by virtue of their office.

Firemen of necessity are confined to their fire station and immediate vicinity and consequently have not the opportunity of observing the causes of fires and incipient fires that policemen have. In the matter of prevention and detection of fires a police officer is virtually a skirmishing fireman.

In our police manual an entire chapter is devoted to a detailed method of procedure in the matter of police officers cooperating with members of the fire department at fires. Likewise, a knowledge of police ordinances in cases of promotion in the police department. Even the civil service test given our entrants to the police department are practically the same as for entrants to the fire department.

Traffic a Police Problem

The width of streets and the flow of traffic in a general direction, also traffic signals, have for sometime been considered an engineering problem, but it is a matter worthy of consideration on the part of the executives of a police department, and history has shown that while the flow is measured by rule or formula, the handling of traffic is purely a police problem and one of ever changing conditions.

It is also worthy of attention of the executive of a fire department who find it necessary to direct apparatus and men, in the many small alleys and streets that the width and speed of fire apparatus must be considered, consequently the recommendations of the chief engineer of a fire department are not to be highly taken by either the police department or engineering department of a municipality in laying out traffic lanes or considering the flow of traffic.

Constant application to duty and hearty cooperation, within and without the lines of duty develop strong friendships, and such activities as athletics and social gatherings do much to engender a closer feeling of cooperation and harmony in stress of duty.

Both departments through their conduct bring credit to themselves that will reflect the glory and efficiency of each and of both, through the proper spirit of cooperation and harmony. We cannot look for and we do not expect applause and praise for each act, but we of the police and fire departments can, and do derive consolation, even gratification and pleasure, from our ability to point with pride to the splendid achievements of our respective departments.

Conference Between Heads of Departments

The arrival at and departure from the scene of a conflagration with the maximum amount of speed and safety cannot be accomplished without the detailed assistance of the police department. This detailed assistance will result from conferences between police and fire department heads. At these conferences such traffic problems as congested traffic lanes, improper direction of heavy flow traffic, location of fire alarm stop signals and such measures as aid in the rapid progress of fire apparatus combined with safety—alike to the firemen so responding and the persons, vehicles and property of citizens on the streets through which the fire apparatus has to pass.

One-way street provisions and a compliance with the local regulations and laws as to the route of heavy traffic should be strictly enforced by the police department. Fire department officials should see that proper budget appropriations are set aside in their respective municipalities to install a signal system so connected that all intersection movement which would impede the progress of fire apparatus may be stopped at the approach of such apparatus. Gong signals should be installed in the various heavy travelled districts, the ringing for a certain period of time to indicate the approach or possible approach of fire apparatus.

Taxicab men, garage owners, teamsters and street car motormen, as well as members of the local police and fire department, should be supplied with pamphlets containing diagrams showing one-way streets, heavy freight traffic lanes, heavy traffic sections, also locations of fire gong signals in their localities with instructions as to the incipient fire calling forth such ringing. Prospective motormen, teamsters and taxi drivers should show they possess a general knowledge of the matters just indicated before being given a local driver's license.

Must be Familiar with Traffic Laws

Both firemen and policemen should be thoroughly familiar with their city's traffic laws and should have no hesitancy in the matter of arterial streets, one-way streets, no-parking streets, fire gong signals, etc. Once at the fire the firemen know what to do. It is in getting there and while the apparatus is in action that the work of the police department plays a big factor and this is why I consider it so important to have the utmost cooperation between the departments and why I maintain that the traffic problem is the link that binds our departments together.

In conclusion, I wish to again bring to mind that although the general aim of both police and fire departments is the same, viz: the protection of life and property, the link that essentially binds the two departments together is the traffic problem. The firemen have to get to and from the scene of the fire at one hundred per cent speed and safety limit.

Discussion on Traffic Problem by Captain Matheson

In further discussion on the traffic problem, Captain Matheson said in part:

Society recognizes that it is necessary, in order to exist that life and property must be protected. When the full measure of protection is obtained, society enjoys security and comfort.

To accomplish this it is necessary to organize units in cities for specific purposes. The most important are the fire and police departments. They are the first line of defense, the first at the scene of trouble, the last to leave, remaining until no longer required or until normal conditions prevail.

Prevention is the watchword of the day and covers every phase of fire and police duty. The latest modern equipment, fast moving apparatus, inspection and equipment of buildings, storage of combustibles and explosives, spontaneous combustion, sanitation and prevention bureaus are all part of the program. The program is the direct result of scientific study by the chief engineers of the departments. These studies are not complete and must continue to meet future conditions. Building construction has advanced from wooden one story buildings to the modern fire proof structure with automatic sprinklers.

These studies have demonstrated to a mathematical certainty the location of fire hazards. Are fire houses located by chance? The answer is "No," because they are located where they can render adequate service.

Then again we have fires started by boys who will turn in an alarm for the sole purpose of seeing the apparatus respond.

The destruction of hay stacks, grain fields, warehouses, lumber yards, saw mills and forests by sabotage gave peace officers on the Pacific Coast one of their most difficult problems to solve during the late war. These fires were started by a phosphorus compound and the perpetrators were far away when the fires started. In most of these cases the property was completely destroyed.

The Fire Marshal and his assistants, from their technical training, are the most valuable adjuncts the police department has in solving these difficult problems.

The traffic problem at fires has received a great deal of study, having in mind the complete removal of all vehicles that may hamper the department while extinguishing a fire.

The parked automobile is one of the difficult problems involved because cars are found locked that cannot be moved by hand. A car should never be so locked that it cannot be freely moved. There are locks that prevent thieves from driving the car away but does not prevent the free movement by hand. Then we have the careless driver who parks his car in front of a fire hydrant. A stiff fine will effect a sure cure.

A disaster of some kind is liable at any time to strike a city and, when it does, it calls for the supreme test of the departments. A city can be destroyed over night by earthquake or tornado followed by a conflagration and that possibility should not be eliminated from the scientific study of the problem. Experience is often a bitter teacher.

Scientific study should deal with local problems individually because of conditions. General problems sometimes fail to reach the weak spots in local organizations. Mutual sympathy, co-operation and study should be the watchword of both departments to the end that the maximum of service be rendered to our respective communities.

Assistant Chief of Waltham, Mass., Retired—George K. Stacy, assistant chief of the Waltham, Mass., fire department has been officially retired and Captain Herbert W. Boothby promoted to fill the vacancy. Former Chief Stacy is sixty-five years old.

Traffic Squad Made Fire-Fighters—Members of the Siskiyou County, Cal., traffic squad have been equipped to serve as fire-fighters should the occasion arise. Their cars are equipped with fire extinguishers, axes and shovels so that they can fight forest fires.

VOLUNTEER FIREMEN SHOULD NOT PLAY WITH THEIR APPARATUS

Newspaperman Advocates Suspension of Insurance when Engines are Paraded Abroad—Tells Volunteers Some Unvarnished Truths

By WM. JEROME DALY*

I FEEL somewhat like an interloper hailing as I do from that little heard-of place they call New York, and having had in my career but little—in fact hardly any actual contact with volunteer firemen's organizations, although, strangely enough, New York City during the World War period, had a volunteer firemen's auxiliary corps, to the end of replacing as far as it was possible and legal, some of the firemen who had gone to the war.

Wm. Jerome Daly, Newspaperman and Fire Fan

I do not make my living at fire fighting, neither do you, so therefore I feel that we are all on a common ground. My training has been that of newspaperman, and for years my work has been largely devoted to firemanic matters. In that connection I have frequently been assigned to volunteer firemen's conventions when they happened to be held near the Metropolitan area of New York City, but this is the first time that I have observed an assemblage of volunteer firemen without fire apparatus and let me add that I think it is a most progressive step and I wish to congratulate you, for on that subject there is a whole lot that can be said, even at the risk of offending somebody.

Should Not Play with Fire Apparatus

I have been warned that volunteer firemen like to play and that any expression contrary to their ideas of playing with fire apparatus will meet with disfavor and incur their displeasure. Well, that may be true, but if we are going to go through life by having everybody agree with us and approve of everything we do, we will not get very far. It is not the most healthy thing for any body of men or organization of anykind to be kidded into the belief that it has the right to make use of other people's property for other than the specific purpose for which it was created—I mean the all too common practice of stripping a community of its fire equipment to go on a junket with it and show it off to the rest of the countryside, while property and people at home are left to the mercy of fire. I think it is about time that some of the sociability that seems to go hand in hand with volunteer firemen's work should be reduced to a minimum—the taxpayers never intended that their money should be spent on fire apparatus for other than actual fire duty or drill work. I think that the community which allows its firemen to go off for the day, miles away, with its only fire fighting machinery, should have every fire insurance policy cancelled for that day. Now this is plain talk and while I do not mean to be offensive I do mean to be helpful, for we can never see ourselves as others see us.

A few years ago, when I was covering the Monmouth County Volunteer Firemen's carnival at Red Bank, N. J., for one of the newspapers in New York I saw fire engines from U————, N. J. and I learned that U———— is at least forty miles away. I asked an officer of the U———— department what would happen if a fire broke out in U———— and he said: "That's all fixed, we won't have any today." So you see gentlemen the frivilous vein in which these matters are dealt with by some persons in the volunteer fire service; the first service in which men banded together wherever men settled, the volunteer fire company, the cradle of our American institutions for the preservation of life and property, the foundation of the body politic.

Speaking of Discipline

One of the things I want to write about is discipline. Much of the success of the fire departments of our country today is due not entirely to modern apparatus and fire fighting science, but to discipline, and right here let me add that I think discipline is improving among the volunteer brigades, but there is still room for greater improvement. A great many of the volunteers in the fire service today are men who served in the war, or if not in the war, at least in the National Guard or other military organization. Naturally, the discipline they were under has been carried with them and aids them now in the volunteer fire companies of which they happen to be members. This condition is good for the individual and good for the fire service as well. It is only too well known that in some communities where there are volunteer firemen, there are too many chiefs and too few firemen. Such a condition is bad. There should be only one boss at a time; everybody giving orders and working at cross purposes is not good organization. The mere fact that it is a volunteer service should not lessen in any degree its discipline.

The Problem of Traffic

Traffic is another of the problems confronting every fire organization today. It has often occurred to me that fire engines go too fast for the general good and that if other things were done first, the speed would not have to be so great; I mean if more attention were paid to the discovery of the fire and the transmission of alarms, the response of the apparatus would be that much faster in time, but not so fast in speed. I have in mind the maddening, racing—almost panicky speed of fire apparatus along country roads and in the populated centres of towns and villages, and its consequent destruction of private property as well as damage to the public property—the fire apparatus.

Fire Alarm Should be Quicker Than Apparatus

Fire alarm telegraph as well as some coordinated system of telephone communication will materially help reduce the speed hazard as well as to lessen the fire hazard. It is a commendable thing for any citizen to start trying to conquer a fire as quickly as he can, but if he could first and conveniently sound the alarm, either by telephone or telegraph, his labors would be shortened, for the firemen would be at his side that much sooner. The speed energy, as I see it, is on the wrong end. It would be better if it were more speedy in the early stages of the fire, rather than making grandstand responses at insane rates of speed, only to say "If we had been here sooner, we'd have saved the building," or "If we got the alarm a little earlier, we could have been here sooner." Of course you would have saved the building, but how could you when the fire was beyond the control stage before the apparatus got started. I was glad to see as I passed through Pearl River on my way up here that they are installing new boxes and that they are going to have dummy box locations in order to facilitate telephone alarms. This is real progress and it reflects great credit on the ingenuity and training of Chief Biedermann, my old comrade in the New York Department.

Mistake to Change Officer Personnel

The day has passed, it seems to me, when social prestige or fraternal affiliation, or political association should be a factor in controlling the personnel of the local fire company, brigade or department. I have in mind more particularly the annual election of officers of our small fire organizations. I think it a grave mistake to annually change the officer personnel if the right sort of men, with the right sort of interest are in command. None of us would swap horses while crossing the stream, so why change the fire commanders every twelve months, if they are willing to serve and are satisfying the taxpayers or the local officials? I cannot see the wisdom of losing the services of a commander who is making good and who is able to maintain peace in the official family, yet it is done with annual regularity just to satisfy somebody's selfish ambition for the social or political prestige they aspire to attain, while the morale, the efficiency, the discipline and the effectiveness of the fire company or department suffers in consequence, because the man who seeks such public honors is not at heart a good or true fireman; he is a good figure-head at best and the old reliables in the company are the ones who keep on putting out the fires year in and year out.

These annual changes do not take place in the departments in the big cities, indeed they do not take place excepting on account of death or old age, although there are in this country some fair sized cities and towns where the fire chief's tenure of office is at the whim or the pleasure of the political party in power; which is not good for the fire service, not at all.

In New York, we have, as you know, Chief John Kenlon, forty years in the service and about sixteen years as Chief. I'll venture to say now and without fear of contradiction here or at home, that if the firemen of New York were to take a secret vote, or if the taxpayers of New York were to take a secret ballot, they would vote for Chief Kenlon's retention at the head of the department,

*Address delivered before 15th annual convention of The Rockland County Volunteer Firemen's Association at Tallmans, N. Y., July 15, 1927.

and why? He is efficient, able, successful; he's a commander and the department has made its most progressive strides under his leadership. Of course he has been there longer than any predecessor. I do not contend that this principle should be adhered to if the incumbent is aged, infirm or slowing up or going backward in his ideas. Youth must be served if the "old man" is beginning to totter, but Kenlon is not tottering; he is 69 but he is at the same time a much younger man in his notions and activities; that's why he is there.

Advantage of Fire-Fighting Propaganda

Now there is just one more subject that I would like to refer to and that is the subject of propaganda or fire-fighting literature—I mean scientifically and otherwise. Every fire company or department should keep contact with its local press. You will find that the townspeople are always interested in what the local fire company or department is doing—what is going on, for after all, while they might not give much outward attention to the fire service, they are bound to think of it when they place their heads on their pillows at night. Make and maintain a good contact with the local papers; if the paper does not send a man around to get the news, ring them up and tell them they are missing some news, not for the personal aggrandizement of any individual but for the general welfare of the company; keep the fire company in the papers, especially its accomplishments and its service, and by the same token, be equally as frank and conversant with the newspaper when something goes wrong. Remember that news is news whether it is for or against you. Keep up with the scientific journals devoted to the fire fighting profession. Read FIRE ENGINEERING and keep it on file, and other publications devoted to fire protection or extinguishment or general fire news, especially news of an educational character, where questions and answers are published for the enlightenment of fire fighters.

Of course New York, I think, has the best training or drill school in the country, as attested by the number of students who have attended it from other cities of this country and even from the capitals of Europe, but locally, here in this community you would do well, in addition to following up the fire publications, to hold quizzes among yourselves and also hold drills and tests. Propound problems for the boys to work out. Chief officers in New York do it. They have little sessions within their own battalion or division; they do not take in students from outside their own jurisdiction, for fear that their ideas as to how a thing should be handled might not coincide with the ideas of some other chief or commander. But it is well to talk fire, conjure up problems as to how you would handle this or that situation if it should break tonight. You never know, it might, God forbid, but it is wise to visualize. It comes in handy. Be prepared; don't be caught off base; know your job and know it well.

It is perhaps presumptious on my part to tell you these things; you no doubt know them as well as I do. If we are going to ask to hear from only those who will approve of you and stand here and tell you all how good you are and how well the volunteers are handling their job, we will all be in a rather small sphere—a small world. I know of nothing more beneficial than constructive criticism, well meant and rightfully directed.

So let me leave these few thoughts with you, with the hope that you will discuss them, even if you do not entirely agree with some of them. Whatever the outcome, I am confident that it cannot be other than for making of greater efficiency, a higher morale and a more serviceable stewardship to your fellow citizens in the fight against the enemy that never sleeps—fire.

Extravagant Gifts to Officers a Burden

(*Continued from page* 938)

gift, was finally given a purse of $500 in cash, mainly supported by subordinates whose salaries were 45% less than the man they were "honoring."

I have in mind another case of a Deputy Chief whose service anniversary was approaching and it was determined by the "kitchen cabinet" to give the boss a silver service. The prorated tax was announced months in advance so that the effect of the blow would be softened. Finally the wife of one of the firemen wrote to the Mayor of New York and protested in these words: "why a silver service for a Deputy Chief, while the families of firemen have to drink out of tin cups?"

The Mayor called a halt on the affair and it was stopped. The men smiled in silent approval.

Not so long ago the members of a fire company in New York endured a triple tax in one lump, due to, (1) the twentieth anniversary of the Division Chief, (2) the promotion of a fireman to Lieutenant and (3) the twentieth anniversary of another fireman in the company. There is no question about the sincerity of the gifts; if restricted to reasonable expressions or tokens of affection, they are pleasant and estimable things to do, but now the craze has reached the stage of gold watches and diamond rings with the official badge engraved thereon. In many of these instances, the watch has a medallion or charm attached and in it is a stone befitting the wealth of a bookmaker or a bootlegger.

Not so long ago, the firemen in a downtown battalion chipped in $7.50 each over a period of two months to give the Battalion Chief a gift. They hardly knew him, and he barely had time to get acquainted with them, because he had but recently come to them from a distant part of the city in another borough across the river. But, these men, only a short time under his command when his twentieth anniversary arrived, tossed into the pot to make him a gift. It was not long thereafter that he died, and regrettable as was his untimely death in the flower of life, it only again proved the improvidence and extravagance of such reckless presentations, devoid of true sentiment and esteem, done on an elaborate basis, begrudgingly, and permeated with an atmosphere of influence and coercion.

Last March when Fire Chief John Kenlon was about to complete forty years service the committee in charge of the anniversary placed a restriction of 20 cents for firemen and $1 for company officers. That proved very popular. The committee had to put the brakes on somewhere or the sky would be the limit, and the family allowance would be short.

Of course it may be argued that no fireman, with independence of thought and action, is required to go along on these matters, but since discretion is the better part of valor, the men make sacrifices in order not to be marked or branded—"so-and-so did not contribute." I have in mind the occasion of a civilian official whose tenure was terminated and he went to another branch of the government where there was no official automobile, he having had a city car for years. His former aide conceived the idea of having the civilian bureaus of the department make him a gift of an automobile. The official had not been the most popular fellow during his years in the service, but the propaganda was started, and as is often the case, the honorary chief officers who usually are men of large means were the first to be "soaked" but when it came to the personnell one man exclaimed, when approached: "yes, I'll chip in for an automobile for him if it will run over him."

This typifies the "sentiment" and the "esteem" and the "affection" with which the gift giving habit has become a curse on the escutcheon of the New York Fire Department.

Here is a popular opportunity for Commissioner Dorman to be a real friend of the blueshirts, by demanding that all gifts be not alone in strict compliance with the book of rules, but further that they not cost more than a maximum amount to be fixed by the Commissioner in his judgment, which thus far has been ideal and has met the almost unanimous approval of the entire force.

Respectfully

FIREMEN'S FRIEND.

Protecting the Unfinished Skyscraper

(*Continued from page* 936)

when the building is completed, but as a hot fire may occur among combustible material stored at the lower level and so damage columns as to result in collapse or buckling of same, as a matter of safety, these columns should have a suitable covering of temporary fireproof material until such time as they are ready to be permanently protected.

The enclosure of all stairways should be a matter of first consideration, and all landing, treads, etc., to permit use of same by the fire department, should be provided without unnecessary delay.

Periodical Inspection of Buildings Being Built

All officers and members of the fire department in whose districts tall buildings are being erected should be required to make periodical inspections of same, not only to note any violations of ordinances and fire protection regulations which may exist, but also so they may be familiar with all conditions in such structures.

In all fire departments, a standard method should be adopted for stretching hose lines to various floors in tall buildings with the view of being required to perform such operation when standpipe systems may be lacking or out of service. Such operation should be included in the regular work at the Drill Yard and embodied in the schedule for training and practice in company quarters.

Stop Order in Case of Hazardous Conditions

The hazards of fire in these tall buildings during construction, where all safeguards to prevent and limit fires are ignored, is a matter of grave consideration not only as to danger within the structure itself but to all surrounding property as well, and in all cases where properly installed and maintained standpipe equipment is lacking, the condition should be rightly deemed a

dangerous condition" justifying the issuance of a "stop order" on the job until the hazard is abated.

All the deliberations, thoughts and suggestions of the fire chiefs of the world, and much of their constructive training and development of their departments, may be set at naught if co-operation of the citizens and civic authorities is lacking in fire protection measures. But where modern thought and civic pride for the general safety of the community exists, the economic development of the skyscraper and its attendant fire hazards becomes a normal consideration with a fire department keeping abreast of its community and meeting all its problems with modern thought, skill and efficiency.

ANNUAL CONVENTION OF VIRGINIA FIREMEN HELD IN ALEXANDRIA

Many Prizes Awarded at Tournament—History of Alexandria Department—Meet Next Year in Ocean View—Date Not Set

ALEXANDRIA, VA., one of the most historical cities in the United States, entertained the forty-first annual convention of the Virginia State Firemen's Association. Many firemen attended and the local committee arranged a round of entertainment for the visitors.

Chief J. M. Duncan, Jr., Alexandria, Va.

The convention officially opened on August 24 with a business meeting at the Elks' Club. In the afternoon there was a sightseeing trip to Washington and the immediate section, and a band concert was arranged for the evening.

The convention parade took place on the afternoon of the 25th and was followed by a barbecue. In the evening there was a burlesque parade and street dance.

The tournament took place on Friday with a swimming meet in the municipal swimming pool in the afternoon and a foot race at the track of the Alexandria high school.

The prize of $250 to the company with the band that made the best appearance was won by Charlottesville. The prize for the largest and best appearing company with band was awarded to Winchester. A company from Annapolis, Md., won the prize for the largest and best appearing company without a band.

The Alexandria fire department traces its history back to a period prior to the Revolutionary War. The company was organized on August 13, 1774, and was presented with a hand pumper by George Washington in 1775. The apparatus was purchased in Philadelphia for eighty pounds and ten shillings. The Friendship Company still maintains its organization but is not active. It is recorded that Mr. Washington was a member of this company. Once as he was riding from his home in Mt. Vernon to Philadelphia a fire occurred and he left his carriage to assist in operating the hand engine.

The first piece of motor-driven apparatus was purchased in 1915. From then on the motorization of the department was rapid and was completed five years later.

There are three companies in the department with two engines and one combined truck and engine. J. M. Duncan, Jr., is chief of the department and he is assisted by a force of nine paid men who man the apparatus and two hundred volunteers.

This department is entrusted with the protection of some of the most historical structures in the country. In case of fire at Mt. Vernon, the home of George Washington, the protection of which was discussed by the I. A. F. C., Alexandra is the first department called. In the city proper is located Christ Church, where Washington worshipped, and in the western section is the five million dollar memorial temple being erected by the Masons in memory of Washington.

In all its history, the city has never suffered from a conflagration of any size. No fire has ever spread from one block to another. While there have been a number of threatening fires in the business section, they have been confined to a small area.

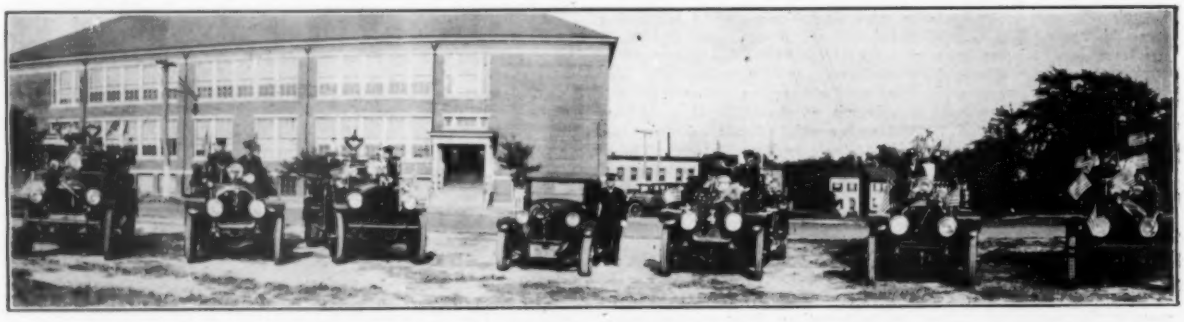
The Seat Pleasant, Va., Float in the Parade of the Virginia State Firemen's Association During Its Convention at Alexandria

Next year, the annual convention of the association will be held in Ocean View at a date to be determined later.

McCoy Heads Connecticut Firemen

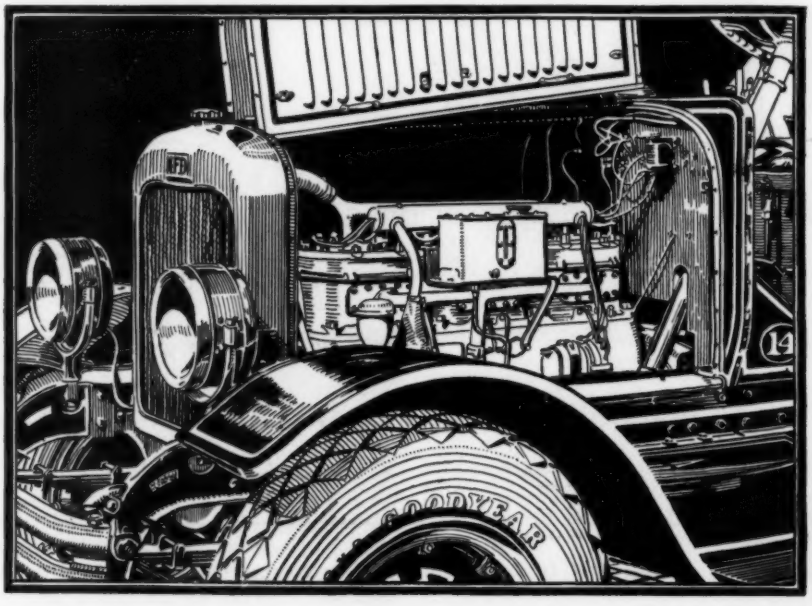
Lieutenant James J. McCoy, of the Waterbury fire department, was unanimously elected president of the Connecticut State Firemen's Association at the forty-fourth annual convention held on August 19-20 at West Haven, Conn. President McCoy succeeds Captain Edward Foley of Bridgeport. Other officers elected were Vice-president Captain William Carlton of New Haven; Secretary David W. Harford of South Norwalk; Treasurer Asst. Chief Michael T. Souney of New Britain and Chaplain Rev. Father M. J. Ryan of Meridan. This year's convention was acclaimed one of the best ever held by the firemen in Connecticut. Many important matters of interest to the fire fighters of the state were considered.

County vice-presidents elected were as follows: Charles Darby, New Haven county; Charles McLoughlin, Hartford county; George S. Pitt, Middlesex county; Frederick Dumas, Windham county; George Milne, Tolland county; William H.



The Fire Department and Fire Apparatus of Alexandria, Va.

Waukesha Engined Ladder Truck Built by Milwaukee Fire Department



d-735-L

Now in Milwaukee Ladder Trucks

After nearly two years' experience in building their own fire pumpers with 6-cylinder heavy duty Waukesha "Ricardo Head" Engines, Chief Peter Steinkellner and Master Mechanic William Striebel have adopted them also for the new four-wheel drive pumper and ladder trucks which they have built. This choice of the Milwaukee Fire Department is significant. It shows how much more attention is being paid to engine performance characteristics and design by the more progressive Fire Department Executives.

Waukesha 6-cylinder Fire Pumper Engines not only have a crankshaft nearly three times stronger than the average, but have a "Duplex" oiling system which feeds "Fresh Oil" to the cylinders all the time, thus assuring unfailing performance under long sustained full load service runs. At one fire a similar engine ran 15 hours and 30 minutes at full load. For full details write for "Fire Pumper Engine Bulletin."

D-760-L

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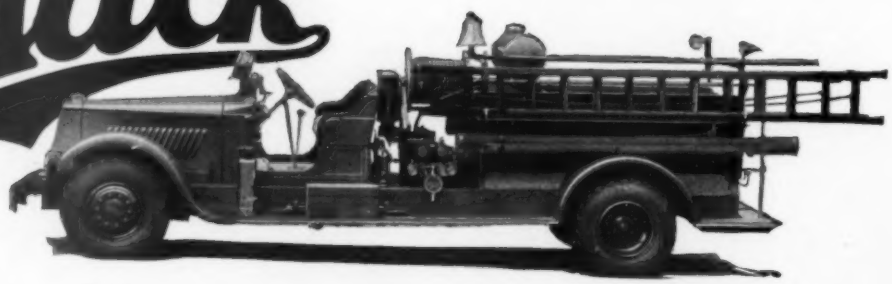

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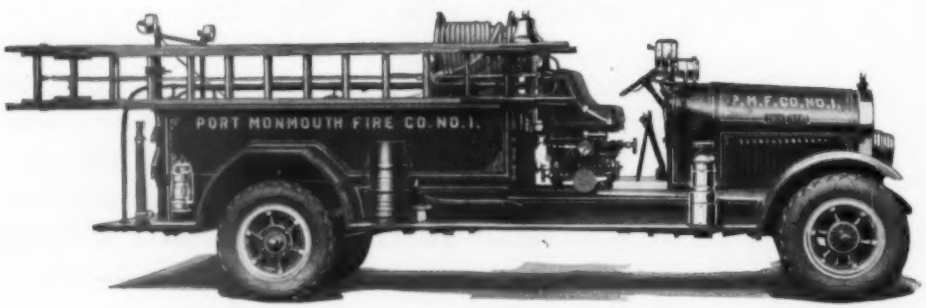

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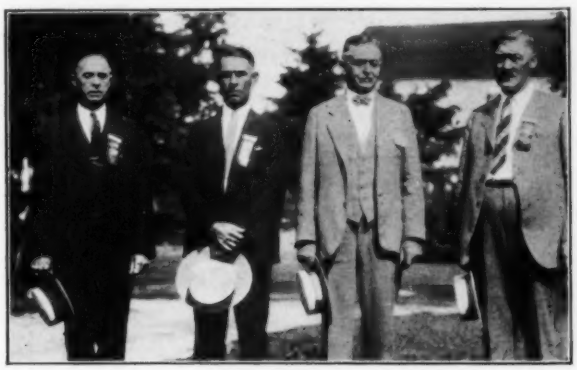
Sheehy, Fairfield county; Carl Edmond, New London county and Charles Stone, Litchfield county.

Among the important speakers at the convention were J. Edwin Brainard, lieutenant governor of Connecticut, who suggested that a committee of the organization take up with the insurance companies, the matter of protection for drivers of fire apparatus from liability in accidents which may occur in the line of duty. The matter which was also brought up in the report of the legislative committee received a great deal of attention.

In its report the legislative committee also called attention to the fact that the annual benefit fund of the state has been



New Officers of the Connecticut Association

L. to r., Vice-President William Carlton, New Haven; President James J. McCoy, Waterbury; Secretary David W. Harford, South Norwalk; Treasurer Michael T. Souney, New Britain.

raised from $13,000 to $18,000 and that a deficiency appropriation of $8,000 for the fund was procured from the 1927 session of the State Legislature.

The Fire Chief's Club of Connecticut, an organization which meets annually with the state firemen, elected Ex-Chief Rufus Fancher of New Haven as its president. Other officers of the chiefs' club who were elected are D. R. Mercer, secretary; D. W. Harford, first vice-president and D. E. Johnson, second vice-president.

The biggest event on the progras for the second day of the convention was the parade of fire apparatus. Sixty-three fire companies with twenty-five pieces of apparatus and twenty-three bands appeared in the line of march. Connecticut's smallest volunteer fireman, Emmett Ellis, of Noank, standing four feet, 4 inches, was awarded first prize for being the shortest man in the line of march. Prizes were also awarded for hose laying contests, running races and other events.

T. F. MAGNER.

New York Firemen Meet in Elmira

Three hundred couples attending a ball at Grotto Park marked the closing of the convention of the New York State Permanent Firemen's Association held in Elmira, N. Y.

The new officers of the association are Harold B. Nichols, Binghamton, president; Alex. J. Sutherland, Rochester, first vice-president; Edward W. Gieselman, Syracuse, second vice-president; John L. Mohan, Auburn, third vice-president; Frank J. Evers, Troy, fourth vice-president; Albert Trausneck, Yonkers, sergeant-at-arms; Frank A. Emden, Utica, secretary-treasurer.

By formal resolutions the convention favored an increase in salaries for state senators and assemblymen, the establishment of box fire alarms in all hospitals, schools and asylums, and co-operation with the International Association of Fire Chiefs during fire prevention week in October. A standing vote of thanks was given the Elmira Fire Department, its general committee, city officials and citizens at large on the splendid treatment they have given the delegates during their stay in Elmira.

The convention next year was given to Seneca Falls. The meeting was addressed by Alfred H. Lyon, former chief of the Binghamton Fire Department and past president of the New York State Fire Chief's Association.

Earlier in the week the delegates and guests visited the Reformatory. By special arrangements they were conducted through the building and witnessed a drill given by the inmates.

N. Attleboro, Mass., Talks about Station Site—North Attleboro, Mass., is considering the location of a site upon which will be erected a new fire station.

Salesmen Pose as Inspectors

Salesmen who have been posing as state fire inspectors and trying to force school boards to purchase their equipment have been warned by State Fire Marshal John G. Gamber that they will be prosecuted to the limit unless they leave the section. Following numerous reports of activity of such imposters, the fire marshal has notified all county superintendents of schools to instruct local school officials to have them taken into custody at once and notify his office.

"For two years we have been conducting a school survey in Illinois for the purpose of bringing all school houses, both city and rural, up to safety standards," he said. "Salesmen have flocked into the various counties seeking to sell safety equipment. According to reports which have reached us some of these represent themselves as agents of this office and threaten penalties unless the equipment is purchased. Occasionally a fake star or credentials are flashed. Usually these imposters are men, working singly, but a recent complaint was that two were working together. One posted as a fire inspector and threatened penalties. The other stepped up and suggested that he had the exact equipment ordered. We have a complaint also of a woman imposter.

"We are going to teach this type of salesmen that Illinois is not a healthy place for them. We have advised school officials to have them taken into custody promptly and will deal with them in short order.

"All the orders which we serve on schools are written in this office and served by registered mail. School officials are advised to be governed entirely by these written orders and to seek advice on doubtful points direct from this office."

E. Conemaugh, Pa., Has Efficient Department

Membership in the East Conemaugh, Pa., Volunteer Fire Department now totals ninety and some of the members are shown grouped in front of their chemical apparatus. The equipment for the truck was furnished by the American-LaFrance Fire Engine Co. In addition the department has a 1,000-gallon pumper furnished by the same company and a Packard chemical truck.

San Francisco Has a Fleet of Ford Cars

A fleet of especially equipped Ford cars are being used by the San Francisco fire department for the opening and closing of valves in the high pressure area. Crews are sent out with the cars to operate the valves in case of fire. The valves are also operated at stated intervals to see that they are in the proper condition. The men at the right are closing a gate valve.

C. W. GEIGER.

INDUSTRIAL PLANT PROTECTION

PROTECTION AGAINST FIRE IN THE INDUSTRIAL PLANT

Steps That Should be Taken by the Plant Chief to Prevent the Occurrence of a Serious Fire—How to Care for Equipment

By CHIEF W. H. SEWARD,
National Carbon Company, Cleveland, Ohio

IT is no more than natural that in thinking of fire protection that automatic sprinklers come to mind. Sprinklers to be most efficient must be properly installed, maintenance must be perfect, and a good water supply furnished. Water supply from two distinct sources is important. Many sprinkler systems which on installation gave good protection, have been seriously crippled by rearrangement. A partition may be run close to a line of heads with the result that while the one side has more than ample protection the other has little or none, on account of the wide space intervening. Such a condition can sometimes be remedied by cutting away a section of the partition opposite the sprinkler head, the size of this opening will depend on the distance the head is removed. If dust or fumes must be excluded, the openings may be covered with thin waxed paper; while this is not altogether desirable, it may be a case of choosing the lesser evil.

In the older installations, it is not uncommon to find concealed spaces unprotected. Even a large supply cupboard which is permanently installed is worthy of a sprinkler head. Many of you may have systems which were installed 15, 20, or more years ago, with the original heads still in service. It will be well worth your time to test out some of these old timers to see if they will open anywhere near their rated temperatures; you may be surprised at the result. Heads exposed to acid, caustic and in some instances pitch or paraffin fumes should be inspected at frequent periods. Each wet pipe system or dry pipe system which is wet during part of the year should be equipped with a drain valve connected to one of the small lines high up in the system. This should be opened at least once each year. It is surprising how often small lines are found choked with rust and sometimes sand.

A question often asked, "Is it desirable to keep a dry pipe system on air during the warm months?" While this is a question which should be answered by the insurance carriers, it is my belief that they should not. Providing the water supply is not corrosive, there is no question but that a wet system is quicker than a dry pipe and speed is most important in fire protection. The added maintenance cost, if any, is more than offset by the results in case of fire.

Fire Departments Important

It is our thought that no plant is too small to have something in the way of organized fire fighters Even though your entire equipment consists of but a few fire extinguishers, water buckets or small hose, it is a decided advantage to have a few men drilled in their use and maintenance. The size of your fire organization will depend on many factors; the size of your plant and the risk involved, type of construction and height of buildings, extent of sprinkled area, water supply, aid which can be depended on from outside sources like City Fire Department, or that from neighboring plants. It may mean in a large isolated plant, a full time paid department with officers and equipment comparable to that of a small city, or it may be a number of your regular employees selected for their fitness for the work and living close enough to the plant to be of service in case of night fires, if the plant does not operate twenty-four hours per day. In any event, these men should be so drilled that they will do the things necessary to estinguish fires with a minimum of supervision. The equipment will vary with the size and general layout of the plant. Involved in general, it is desirable to provide a hose house at each hydrant equipped as follows as a minimum: 4 sections of hose, 2 sections connected to hydrant with play pipe attached, 1 axe, 2 bars, 2 spanner wrenches, 1 hydrant wrench, 1 lantern and several hose washers. To this may be added a spare play pipe and a length of rope, if your conditions seem to require it. In many cases, spare hose on a reel which can be quickly transported in laying long lines, is desirable, 2½-inch and 2⅝-inch cotton rubber lined hose is generally accepted as standard for hose house equipments; single jacket wears well under ordinary conditions, but if your service is more severe, double jacket may be more satisfactory. It is well to have hose couplings conform to the National standard of thread size, as practically all public departments are using this standard, and if the department with which you cooperate has not yet made the change, adapters may be provided to make it possible to connect your hose to city equipment, if necessary. Fire axes should be of ample size; six-pound is not too large. You can take your choice as to play pipe tips, but 1⅛-inch has been found to be about right. Lanterns should be of the shielded type and kept clean and filled. Hose washers get hard when exposed to the light, but as they are cheap, change them often.

In many plants ladders are an important part of the fire equipment. Regular fire department ladders are recommended, but if ordinary extension ladders are used, be sure they are of the heavy type and inspect them thoroughly to make sure they have no defects, as fire ladders are subjected to much more severe usage than ladders in ordinary use. They should be stored in a dry place and kept in perfect repair.

Stand Pipe and Small Hose

Although stand pipes and small hose are usually considered as first-aid fire equipment, yet it links in so closely with the fire department, that it seems desirable to mention it at this time. Stand pipes are usually installed in stairwells and other parts of buildings, which are heated and are kept under water pressure at all times. There are exceptions to this in some cases where it is impractical to prevent freezing of stand pipes, and the risk will warrant the expense.—stand pipes may be connected to a dry pipe valve. The usual hose equipment for stand pipes is 1¼-inch or 1½-inch, unlined linen hose, although in some cases rubber lined or rubber hose is necessary. Unlined hose is used mostly on account of its low first cost and because it is well adapted to storage in limited space. It has the disadvantages that it cannot be tested in the usual way, as once wet although apparently dried, its reliability may be questioned. It is also hard to handle in long lengths on account of kinking. There is very little choice in the various hose racks on the market, also some of the hose reels intended for this hose are giving good service. The automatic reel by which the supply valve is opened when the hose is pulled out, has not met with general favor.

It is sometimes an advantage to have stand pipes fitted with 2½-inch hose connections at each floor; in that case 6-inch or larger pipe is desirable.

First Aid Fire Equipment

Possibly the best known and least used of our small equipment is the fire pail. Cheaply installed and maintained, it should be a favorite where it can be used to advantage, but in practice it seems to be passed up in preference to other types of equipment. Fire pails should be of metal heavy enough to stand hard use, painted red, lettered FOR FIRE ONLY, stored on shelves where possible, in units divisible by 2, kept at least two-thirds full of clean water and covered, and the water should be changed at least twice each year. If exposed to freezing, calcium chloride may be added in the proportion of about two pounds per gallon, in which case water only may be added to make up for evaporation. The old standby, the 2½-gallon, soda acid, is too well known to need comment, except—use them liberally, hang them on a strong hook, keep them clean and painted, check hose and nozzle each week and discharge and refill each year. On refilling, wash thoroughly and check strainers and loose stoppers.

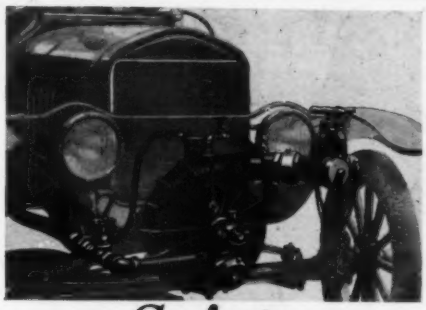
Foam Extinguishers

Thip type of extinguisher while new compared to the soda acid, is giving good service on fires other than electrical; where somthering is desired, may be used on general fires, but probably is no better, if as good as the soda acid. They should be given the same attention as the soda acid, special attention being given to cleaning when refilling. Nothing but the refills specified by the manufacturer should be used, if you expect maximum service.

Carbon Tetrachloride

May I be pardoned for expressing my personal feelings rather strongly. It is my thought that this type of extinguisher has been very much overrated. On electrical fires, it is almost indis-

* D-livered at annual convention of the Ohio Fire Chiefs' Association, Mansfield, Ohio.



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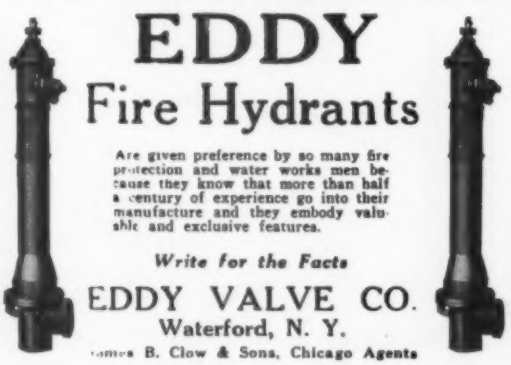

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225 W. 34th St., N. Y. C.

pensable, is well adapted to gasoline and inflammable liquid fires in confined places, but as a general fire extinguisher, it is of but little use. The quart size seems best adapted to factory use, although larger sizes may be had, if desired. They should be checked weekly and pump-tested monthly. It is desirable to refill them with liquid manufactured for extinguisher use.

Sawdust and Soda

Although little used, it has a real place in fire extinguishment, mixed in the proportions of ten pounds of soda and one bushel of clean dry sawdust. It may be used in many places where smothering is the result desired; may be stored in pails for small risks or as protection for larger risks in tanks holding eight or ten bushels, in which case a long handled shovel should be provided.

Fire Blankets

A woolen blanket in a metal container is desirable in laboratories and other places where there is danger of employees' clothing igniting; may also be used to smother small fires in chemicals.

General

A few years ago, benzol, naptha and gasoline were so little used in industry, that no special means of extinguishing fires from that source were provided. Today, their use is so general and such good protection has been devised, that we do not think of them as being much more than an ordinary risk. In the past four or five years, a new risk has come into almost general use in industry, and at the present time fire prevention engineers seem to be at least one jump behind.

Nitro cellulose lacquers are here to say and adequate fire protection methods will be found. At present, the general method method is the same as in gasoline and other volatile liquids, that is to smother by foam (sawdust and soda, carbon tetrachloride, or other means. To this should be added water. The residue from this paint, and combustibles which come in contact with it, like rags or waste used for wiping, are susceptible to spontanious combustion, and like celluloid in decomposing generate enough oxygen to support combustion. In spraying, if possible, the operation should be carried on under a vented hood. Natural draught with separate stack for each hood seems more desirable than fan suction; this is to prevent quick fire spread. Good protection we would say, would be sprinklers, foam and soda acid extinguishes; add carbon tetrachloride if you wish.

Dip tanks can probably be best protected with foam equipment. This may be had in various sizes and types to meet almost all conditions. The larger equipment may be automatic by fusible links, or rate of rise attachment. Foam sprinkler systems are also available. Where the method of application is hand brushing, the best of housekeeping and good ventilation is necessary.

Inspection and Maintenance

All fire equipment no matter how simple, requires constant attention if it is to be thoroughly reliable. It is not enough that you look at the target of an indicator port and see that it says "Open," you must test the valve by turning to the full open position to see whether or not the gate has dropped from its stem and is blocking the water way. It is also necessary at times to open the drain valves in risers, watching the pressure gauge while doing so, if pressure drops more than 7 pounds, investigate. You may find a plug in the line. Dry pipe valves when on air require special attention. Check air pressure often. Under ordinary conditions it should not exceed 45 pounds. On weekly inspection, check primary water over air seat, as it sometimes leaks out, or water from your air supply or other source may fill riser above valve to a point where it will water column, and put the valve out of commission.

Hose house equipment should be checked to be sure that it is in its proper place, and in good condition; hose couplings fitted with good washers and screwed up tight; axes and handles in good condition; rope neatly coiled, and hose in such condition that it will run out readily; hose should be tested under pressure once each year. In cold weather make sure that hydrants are drained below the frost line. Soda acid and foam extinguishers should be checked to see; first, that they are full and second, that the hose is in good condition and the nozzle not plugged. The pumps of carbon tetrachloride extinguishers should be tested monthly. It is easy to spot empty fire pails, but lift them off their shelves or hangers once a month to see if the pails are in good condition.

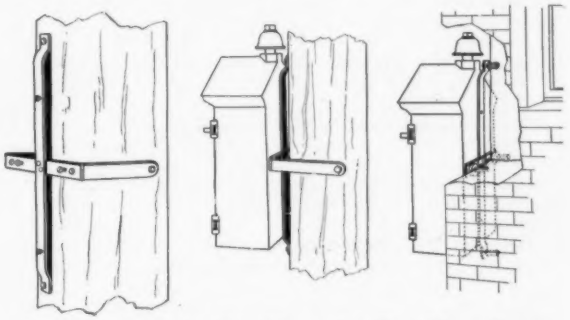
About the only check necessary for unlined hose is to see that it is on the job is that it be dry and the nozzle connected. Once each three months, disconnect from the valve and inspect the washer. The valve also may be seeping a little. Special attention should be given to keep the equipment free from obstruction. Fight if you must to keep it clear.

Good housekeeping is of vital importance in fire prevention. Don't take it for granted that because the front office and main passageway are clean that the entire plant is in the same condition—look in the corners, under the benches, behind the stock piles; get off the beaten paths. I make it a point to give the most attention to the places where it would be hardest to fight a fire. Combustibles should be removed from hot pipes, and other heated surfaces. Rubbish cans should be emptied regularly, and kept in good repair. Combustibles should be kept away from electric equipment which may become overheated, or throw sparks. Watch the fusing of electrical circuits and the cleaning of motors, the handling of volatile liquids, and not least of all, smoking. The man to whom is entrusted the prevention of fire, and the care of fire fighting equipment, has a man-size job. It is not by chance that when the fire comes the equipment is ready—it is because someone has done his job well. No matter whether you may be the chief of a large well drilled fire department or have charge of a comparatively small amount of equipment in connection with other duties, you have a responsible position worthy of your best efforts.

New Method of Mounting Fire Boxes

The customary backboard is abolished in the new method of mounting fire alarm boxes as developed by the Gamewell Company with their "Ezymount."

It consists essentially of a vertical metal strip with a horizontal arm designed to reach around the pole. It has an offset at both the upper and lower ends in order to clear the box. The



Applications of the New Mount for Fire Alarm Boxes

Left—The mount placed on a wooden pole ready to receive the fire alarm box. Center—Box mounted on pole by device. Right—Bracket used to mount box on building by removing side arms.

sidearms are adjustable to poles of various diameters. The device can also be used on flat surfaces by removing the side arms and striking the offset a blow with a hammer to make the strip flat.

The design of the mount prevents the box being removed except by one who has access to the inside of the box.

Fire Alarm Operates During Flood

Following the great floods in the Mississippi valley section, an inspection was made of the fire alarm system in Greenville, Miss., to see what damage was done.

Despite the great flood which was twenty feet deep in some places, the fire alarm system functioned during the eighty-five days of the flood and was used continuouslv. One fire alarm box was pulled for a bad fire after being under two feet of water for some time, and the signal was transmitted properly.

Water adjacent to this box was eight feet deep at the time the alarm was sent in and the man who turned in the alarm had to row out to the box in a boat to pull the lever. Only four of the many boxes used in the system that were under water during the flood required to be removed from the poles for repairs. One of these boxes was burned by a high voltage wire coming in contact with the box and the trouble was not attributed to the water.

Chief Donovan has shipped the damaged boxes to the Gamewell Company for repair. With the exception of the few damaged boxes, the entire system functioned perfectly.

Experimenting on Forest Fire Lines—The Georgia state department of forestry is experimenting to find the cheapest and most efficient method of cutting fire lines through the timber lands. Five hundred owners of timber land in the state witnessed tests made by the forestry department.

FIRE DEPARTMENT ACTIVITIES

Work Progresses on Altoona, Pa., Station—The erection of the new fire station in Altoona, Pa., is progressing rapidly.

Chiefs Want to Ban Fireworks—The California fire chiefs are in favor of a plan to ban the sale of fireworks in the state.

New Station Urged for Corvallis, Ore.—The erection of a new fire station near the college is being urged in Corvallis, Ore.

New Pumper Arrives in Reading, Pa.—The Rainbow Fire Company of Reading, Pa., has received its new fire apparatus.

Catskill, N. Y., Receives Apparatus—New fire apparatus has been delivered to Catskill, N. Y.

Wyoming, Ill., Receives Fire Apparatus—Wyoming, Ill., has received new fire apparatus.

Bordentown, N. J., Orders Apparatus—Bordentown, N. J., has ordered a chemical truck equipped with ladders.

Traffic Sirens Installed in Revere, Mass.—Traffic sirens have been installed near the central fire station in Revere, Mass.

Hartford, Conn., to Erect New Station—Proposals are being considered for the erection of a new fire station in Hartford, Conn.

Flemington, N. J., Opens New Station—The new fire station of Flemington, N. J., was formally opened on Labor Day. The building was constructed at a cost of $12,000.

Colusa, Cal., Receives New Apparatus—A chemical fire truck mounted on a Graham Brothers chassis has been delivered to Colusa, Cal.

New Fire Stations for Jackson, Miss.—The council of Jackson, Miss., has received bids for the erection of two new fire stations—both to be completed within a year.

Fund Raised in Perryopolis, Pa., for Apparatus—A fund has been raised in Perryopolis, Pa., for the purchase of fire apparatus.

Dauphin, Pa., Purchases Siren—An electrically operated siren has been purchased by Dauphin, Pa. The system will include a number of fire alarm boxes.

Chiloquin, Ore., Orders New Apparatus—Following two disastrous fires, Chiloquin, Ore., has purchased chemical apparatus.

Fire Alarm Installed in Fairview, N. J.—A new fire alarm system has been installed in Fairview, N. J.

Pennsgrove, Pa., Has New Pumper—A 600-gallon pumper has been added to the Pennsgrove, Pa., department.

Morristown, Pa., to Purchase Salvage Truck—Morristown, Pa., will purchase a combined salvage, rescue squad and foamite apparatus.

Sellersville, Pa., to Build New Station—Funds are being raised in Sellersville, Pa., to finance the construction of a new fire station.

Altoona, Pa., to Have New Station—Work is progressing rapidly on the construction of a new fire station for Altoona, Pa.

Batavia, Ill., Receives New Apparatus—A Peter Pirsch fire apparatus has been delivered to Batavia, Ill., and replaces a fire truck that had been in service for eleven years.

Hightstown, N. J., to Have New Station—Contracts have been let for the construction of a new fire station in Hightstown, N. J.

Seattle, Wash., Has Another Station—Seattle, Wash., has just completed the construction of another fire station at a cost of $125,000. It will house equipment valued at $100,000.

Oglesby, Ill., Orders Fire Apparatus—A Boyer fire apparatus has been ordered for Oglesby, Ill. The apparatus will be mounted on a Graham Brothers chassis.

Lewiston, Me., Orders Ladder Truck—Lewiston, Me., has ordered an Ahrens-Fox Ladder truck for $10,000. It will also be equipped with three hundred feet of chemical hose.

Fire Apparatus Placed in Holbrook, Mass.—The town of Holbrook, Mass., has ordered fire apparatus which will be used for protection against forest fires.

More Firemen for Bellingham, Wash.—Nine additional firemen will be added to the force of Bellingham, Wash. The plan is to station the new men in a bungalow fire station which as yet is unoccupied.

Chiefs Guests of Thief River Falls, Minn.—Twenty-five fire chiefs, members of the Northern Minnesota Firemen's Association were guests of Thief River Falls, Minn., at a meeting held there.

Explosion Fires N. Y. Yacht—A cruiser anchored off Greenwich, Conn., caught on fire from an explosion. Some of those on board just had time to escape. The boat burned to the water's edge and then sank.

Anniston, Ala., to Erect Station—A committee has been appointed to consider plans for the erection of a new fire station in Anniston, Ala. A new pumper will arrive some time in September and therefore the plans for the station will be rushed.

Illinois State Fair Protected Against Fire—Chief William Funderburke of Springfield, Ill., completed plans for the fire protection of the state fair grounds. Apparatus from the city has been stationed on the main highway near the grounds and will be manned by members of the department.

New Lieutenants Named in San Francisco—Eight new lieutenants have been named in San Francisco. The appointments would have been made sooner but for injunction proceedings against the civil service list—the injunction was recently dissolved.

Paterson, N. J., Goes on 24-Hour-Shift—Three months ago, Paterson, N. J., tried the plan of the 24-hour shift at the request of the firemen. When the board meets early in September, the firemen will ask them to make the plan a permanent one as the new method of working hours has unanimous approval.

Amesbury, Mass., Has New Fire Station—A central fire station has been opened in Amesbury, Mass. Three companies will make use of this station. On the second floor is a large room which will be used for recreational purposes by members of the three companies.

Carthage, Mo., Chief to Attend St. Joseph School—Assistant Chief Marcus Welton, of Carthage, Mo., will spend thirty days in St. Joseph, Mo., for instruction in the firemen's school. Arrangements are being made in Carthage to instruct the firemen there when Assistant Chief Welton returns.

San Pedro, Cal., Adopts New Cut Uniforms—The fire prevention bureau staff of San Pedro, Cal., have adopted a style of uniform of the pattern now being worn by the chief petty officers of the U. S. Navy. The old military collar has been done away with and the collar is of the pattern with lapels and an open front.

Lake Odessa, Mich., Receives New Apparatus—Fire apparatus for the protection of the rural community of Lake Odessa, Mich., has been delivered to the town. Each farmer of the section contributed $25 towards the purchase of the apparatus. Farmers who did not contribute towards the machine will be charged for each fire run.

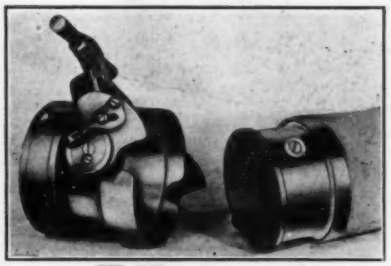
Reserve Corps Started in Berkeley, Cal.—Fifteen men selected from the street and park departments of Berkeley, Cal., will undergo a course of instruction in fire-fighting so that they could form a reserve corps in case of major fires. While it is not the intention of the department to return to the volunteer system, plans are made to prevent the holocaust that occurred in September 1923.

Sacco-Vanzetti Workers Burn Fire Stations—Sympathizers with Sacco and Vanzetti, who were electrocuted for murder, have been busy in Cambridge, Mass., and burned two fire stations. While the fire apparatus was out fighting a fire, the fire stations were set on fire. And while the firemen were fighting the fire in their own quarters, two chemical plants burst into flame, following explosions.

Attempts Made to Fire Boston, Mass., Stations—The police are working on a case which they believe to be caused by Sacco-Vanzetti sympathizers. Two engine houses in the West End section of Boston, Mass., were set on fire while the apparatus were out fighting a blaze in the Boston and Maine railroad yards. About eight fires of incendiary origin were discovered within a mile and one-half area during a six-hour period.

Chief Cody of Atlanta, Ga., Gives Rules—One of the newspapers in Atlanta, Ga., has printed a code of fire prevention don'ts prepared by Chief Cody. Unless the people of the city exercise the proper precautionary measures, Chief Cody believes that the greatest fire department organization in the world can do but little good. He said, "The fire department can only strive to put out fires already blazing and plead with the people to use care and judgment to save themselves. The greatest responsibility rests with the people themselves."

Speedy!



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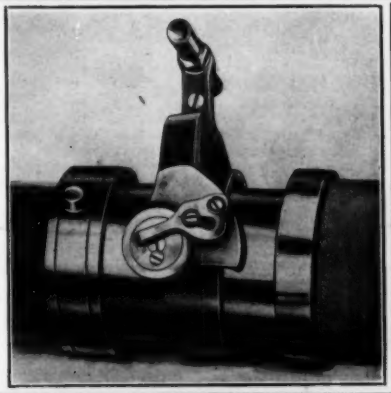

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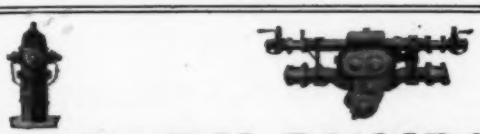

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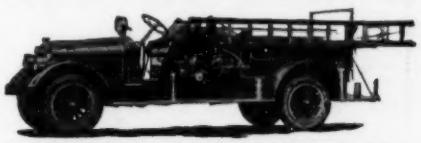

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Over 1,200 sets of Anderson-Hale Fire Station Door Openers are in successful use. They provide simple, durable, quick-acting doors that open inward. No obstruction to sidewalk. Attractive in appearance, cannot sag, closes tight, excludes cold, gives clear opening. Opens from driver's seat or from floor. Many repeat orders from users.

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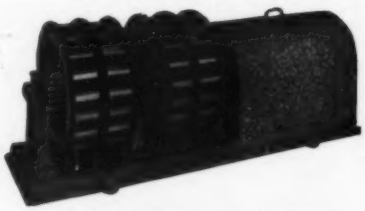

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PROPOSED IMPROVEMENTS

St. Augustine St. Johns Co., Fla.—Mayor J. Herman Manucy will vote on $150,000 bond issue which contains item providing for fire station. Election may be called soon.

Pleasantville, Atlantic Co., N. J.—A site in the First Ward will be purchased for a fire station for Company No. 3. A chief will govern the two companies of the town and an assistant Chief will head each individual company.

Olney, Richland Co., Ill.—City recently purchased a piece of apparatus for the fire department here.

Zeeland, Ottawa Co., Mich.—Considering the purchase of a piece of apparatus for rural use.

Royal Oak, Oakland Co., Mich.—All bids for the erection of a new fire station on Webster Ave. were rejected and new bids will be called for.

Duluth, St. Louis Co., Minn.—Site being sought for the proposed new central fire station.

Rochelle Park, Bergen Co., N. J.—Midland Township Committee passed ordinance at first reading providing for the purchase of a 500-gal. pumper for the fire department by the township at a cost not exceeding $8,750.

Pottsville, Schuylkill Co., Penn.—The West End Hose Co. is raising funds for the purchase of fire apparatus.

Martinsburg, Blair Co., Pa.—Plans are being made for the purchase of a new piece of apparatus for the local fire department.

Warminster, Bucks Co., Pa.—Plans are being made for the organization of a new fire company here. Funds are also being raised for the construction of a new fire station and the purchase of new apparatus for the new company. Morris P. Hallowell, interested.

Westerly, Washington Co., R. I.—Plans for the proposed new fire station are being completed. George Egger, Chief of Fire Dept.

East Haven, New Haven Co., Conn.—The Fox Park Hose Co. 5 is raising funds for the erection of a new fire station, according to reports.

Bellefonte, (Mail Wilmington) New Castle Co., Del.—The Brandywine Hundred Fire Co. is raising funds for the construction of a new fire station here.

St. Charles, Madison Co., Iowa.—Town Council voted to purchase a chassis to mount chemical outfit for the fire department.

Lockport, Will Co., Ill.—Considering the purchase of a Seagrave pumper for the fire department here.

La Porte, Ind.—The sum of $8,000 has been included in the 1928 budget for the erection of a new fire station on the north side of the town.

Lake Charles (Near Grand Rapids), Minn.—Plans are being made for the installation of a new fire alarm system in this city, according to reports.

Pemberton, Burlington Co., N. J.—Volunteer fire company raising funds for the construction of a fire station.

Savannah, Wayne Co., N. Y.—Reports state it was voted in favor of the purchase of a pumper for the fire department here.

Cobleskill, Schoharie Co., N. Y.—At recent election it was voted in favor of a $6,400 bond issue for the purchase of a hook and ladder truck for the fire department.

Boise, Ada Co., Idaho.—Reports state that city is contemplating the purchase of a 500-gallon pumper for the proposed South Boise fire station.

Hopewell, Prince George Co., Va.—City Manager Roy S. Braden seeking site for a new fire station.

Seattle, King Co., Wash.—A new fire station is to be erected at 34th Ave. Northeast and East 57th Street, to provide fire protection for the Ravenna District. George M. Mantor, Chief of Fire Dept.

Camden, Ouachita Co., Ark.—City planning to vote on a $25,000 bond issue for the purchase of fire apparatus, some time in October. Address City Clerk.

San Diego, Calif.—City Council authorized the construction of a new fire station at Five Points to provide protection for the east side.

Hartford, Conn.—Contract awarded to Wise & Upson for the construction of the proposed new fire station at Blue Hills Ave.

Clifton, Passaic Co., N. J.—The Delawanna section of the city requested City Council to provide a fire alarm system.

Eatontown Township (P. O. Eatontown), Monmouth Co., N. J.—An ordinance has been passed by the Township Committee for the issuance of fire department bonds to the amount of $6,000.

Ballston Spa, Saratoga Co., N. Y.—Board of Trustees making plans for the purchase of a new piece of apparatus for the fire department.

Toledo, Lucas Co., Ohio.—Reports state City Council approved an ordinance appropriating $36,000 for the purpose of purchasing fire apparatus. (Previously mentioned July 22.)

Tampa, Hillsborough Co., Fla.—Installation of 40 new fire alarm boxes is being planned for the coming year, according to reports.

Chicago, Cook Co., Ill.—Preliminary plans are being made for the erection of a new fire station on Wacker Drive near Garland Court.

Northboro, Worcester Co., Mass.—Reports state Chief Herbert P. Ford, recommends the purchase of a chemical car for fighting brush fires.

Marblehead, Essex Co., Mass.—Reports state that movement has been started for the purchasing of a new fire engine for the School Street Engine House.

Little Ferry, Bergen Co., N. J.—Little Ferry Hose Co. planning to install a new fire alarm system here, according to reports.

Mountain View, Passaic Co., N. J.—The fire department raising funds for the purchase of new equipment.

Proposals for Fire Hose

VILLAGE OF LYNBROOK,
NASSAU COUNTY, N. Y.

Bids opened Sept. 19, 1927.

Sealed bids will be received at the Municipal Building, 264 Merrick Road, Lynbrook, Nassau County, New York, on September 19, 1927, at 8 P. M. for the purpose of purchasing two thousand (2,000) feet of 2½" Double Jacket Fire Hose.

All bids are to be addressed to Percy G. Sherwood, Village Clerk, Village of Lynbrook, Nassau County, New York.

Percy G. Sherwood,
9-7 Village Clerk.

CONVENTION DATES

Sept. 7-8—MISSOURI ASSOCIATION OF FIRE FIGHTERS. 2nd Annual Convention, Kirksville, Mo. Secretary M. J. Mulvoy, 3500 S. Grand Boulevard, St. Louis, Mo.

Sept. 12-14—ARKANSAS STATE FIREMEN'S ASSOCIATION. Annual Convention, Russellville, Ark. Secretary, H. D. Compton, Little Rock, Ark.

Sept. 13-15—ILLINOIS FIREMEN'S ASSOCIATION. 40th Annual Convention, Jacksonville, Ill. Secretary, Roy A. Alsip, Champaign, Ill.

Sept. 13-15—MASSACHUSETTS STATE FIREMEN'S ASSOCIATION. Annual Convention, Salem, Mass. Secretary, D. J. Looney, 1046 Old South Bldg., Boston, Mass.

Sept. 20-21—IOWA STATE FIREMEN'S ASSOCIATION. 50th Annual Convention and Anniversary, Emmetsburg, Ia. Secretary E. E. Parsons, Marion, Ia.

Sept. 22-24—NEW JERSEY STATE FIREMEN'S ASSOCIATION. 50th Annual Convention and Anniversary, Atlantic City, N. J. Secretary, William Exall, Chamber of Commerce Bldg., Newark, N. J.

Sept. 23—NEW JERSEY STATE FIRE CHIEFS' ASSOCIATION. Annual Meeting, Atlantic City, N. J. Secretary, Fred A. Trowbridge, 17 South Street, Morristown, N. J.

Oct. 4-6—PENNSYLVANIA STATE FIREMEN'S ASSOCIATION. Annual Convention, Shamokin, Pa. Secretary, Charles F. Clark, 411 Bellevue Avenue, Wayne, Pa.

OCT. 17-19—KANSAS STATE FIREMEN'S ASSOCIATION. Fortieth annual convention, Kansas City, Kans. K. D. Doyle, secretary, Wamego, Kans.

Oct. 11-13—RAILWAY FIRE PROTECTION ASSOCIATION. 14th Annual Meeting, Detroit, Mich. Secretary, R. R. Hackett, Baltimore and Ohio R. R., Baltimore, Md.

Oct. 17-19—KANSAS STATE ASSOCIATION OF FIRE CHIEFS. Eleventh annual meeting, Kansas City, Kans. Secretary, K. D. Doyle, Wamego, Kans.

May 7-10, 1928—NATIONAL FIRE PROTECTION ASSOCIATION (International). 32nd Annual Meeting, Atlantic City, N. J. Secretary, Franklin H. Wentworth, 40 Central Street, Boston, Mass.

New Trade Literature Received

The following literature descriptive of up-to-date methods and equipment for fire departments, has just been issued for general distribution, and can be procured by writing to the concern mentioned. Those desiring additional trade literature in which they are interested can use our regular "Information for Buyers" page, listed in the Advertising Index.

Mine Safety Appliances Company, Pittsburgh, Pa.—Four page illustrated folder describing the Burrell Industrial Gas Masks. Illustrated in color.

Ahrens-Fox Fire Engine Co., Cincinnati, Ohio—Four page bulletin No. 153 describing the test conducted in Augusta, Ga.; four page bulletin No. 154, "Is the purchase of an Ahrens-Fox Justified for Small Communities?" Both of the bulletins are illustrated.

Reported Early—Firemen is Killed

Death of a New York city fireman is directly attributed to his faithfulness to duty. He was due to go on duty at 6 o'clock but as he was coming up the street towards the fire house, he saw the apparatus on its way to a fire. He jumped on the apparatus and rode to the alarm with other members of his company on the other shift.

This fireman was a nozzleman. The alarm was caused by a small fire in a building that was being erected. Either, in the dark the fireman came in contact with a high tension wire, or he came in contact with a stray current on the wet scaffold on which he stood. In the rush to ride to the fire, the fireman was not equipped with the customary rubber boots.

The nozzleman was one of the first ready to work. He stood with his nozzle in hand and shouted for water. The instant the water hit the fire the fireman was killed from a line carrying 4,400 volts. A doctor who was called said that death was instantaneous.

More Money Voted for Westfield, Mass., Station—The council of Westfield, Mass., voted to appropriate an additional $4,000 to the $18,000 already voted for the construction of the addition to the central fire station.

New Call Added in Chicago—The 5-11, a new fire call, will be added in Chicago and will be equivalent to the 4-11 with a special assignment. The 5-11 call will automatically send apparatus to cover in, in the event of a large fire.

Massachusetts Chiefs Have Ladies' Outing—The Fire Chiefs' Club of Massachusetts have planned the annual ladies' day outing which, this year, will be held in Marblehead. After dinner, a boat trip around the beautiful Marblehead harbor has been arranged.

Against Utica, N. Y., Station Construction—Residents of a certain section of Utica, N. Y., have filed protest against the erection of a fire station. An ordinance for the erection of the station has been repealed. It is probable that another site will be chosen.

FALSE ALARMS

GOING TO A SHOW

Some one tried flashing an honorary police commissioner's badge to speed through traffic. Funny that no one thought of using a big fire engine. Standing in the theatre district in the evening, one sees that it is only the firemen on their engines that get anywhere. And it is more dramatic.

Some people there are, of course, who are not interested in getting places dramatically. Dull souls, they care only for getting there drably, with no shouts or noises or pistol shots to mark their progress. One pities such unimaginative people.

But there are souls that leap in ecstasy at the notion of arriving at, say, a gala performance of "The Ladder" aboard a fine red extension ladder fire truck. Nor is the notion hollow and impracticable. It calls for a bit of effort, a bit of expense, a spot of time, none of which would be spent in vain when one reflects that going to a theatre in any other kind of vehicle is no longer possible in anything under an hour.

Jeers for Everybody

So that's all the rage today—fire-engines for theatre parties. Is it difficult? Not in the least. Just hop right over to the Franco-American Company and say, "Look here, Franco-American Company, I want a fire-engine, and no back talk, either." There one has his choice, hook-and-ladder, chemical, steam, hose-reel, and so on. For family use, a hose-reel; for big parties, a hook-and-ladder, preferably one with one of those gadgets that lifts the ladder perpendicularly, so the gayer members of the party may ride high and see all the sights.

Place it in a garage around, say, 100th Street, which is convenient enough. Round up the guests and, once they are all gathered together, distribute fire hats and rubber coats. Tune up the siren, clang a bell, open the door, and away we go!

Off to see "The Ladder" in style this time! Out into Broadway—down Broadway—with, for once in a life-time, a clear passage. The bell shatters the air with its din, the siren moans above everything, and the guests shout hysterically, like rookie firemen on their way to their first conflagration. Some run happily up and down the ladder. Others hang from the back step and jeer at the occupants of private cars and taxicabs drawn up nervously to the curb. Others shout advice and suggestions to the chauffeur.

What always happens when a fire-engine charges down Broadway? Cops rush madly about blowing whistles. Taxicabs throw on fast brakes. Traffic halts in every side street. Men and women flee for the safety of sidewalks. Before the engine stretches blocks of clear open passage—a beautiful lane down which a party of good chaps, all law-abiding and taxpayers, should be entitled to ride.

No Danger of Being Caught

What is the danger of being apprehended? None. None whatever. Fire-engines go out nightly around Times Square and Longacre Square. Scarcely an hour of the evening passes that the dread clangor of a fire-engine hell-bent for nowhere does not send a spear of fear to the timid heart. Furthermore, practically everybody knows that they are almost invariably answering a false alarm or headed for a fire which turns out to be smoke in the flue. It has been years since the firemen in the neighborhood of Times Square have seen an actual, genuine uncontrolled flame.

This fact answers in itself the principal question of risk involved, i. e., the risk of being taken under arrest, upon arriving at the theatre. One's course is immediately clear. Upon turning into whatever side street the theatre is on, and coming to a shrieking halt before its doors, the host's part is simply to leap to the sidewalk and begin shouting, "False alarm! False alarm!" until everybody decides to leave, saying to each other, "Well, I reckon it's a false alarm."

Under cover of this confusion say, "Well, fellows, now that we're here, what about taking in a show?" The other guests reply in the affirmative, the one who is riding on top of the extended ladder is persuaded to come down, and everybody enters the theatre, on time!

There are, to be sure, a few details which aren't worked out entirely in this brief outline. One wonders what may be done with the engine during the performance, but perhaps that will work itself out naturally. Something too is to be done about the policemen who arrive to investigate. Then there is the matter of getting home again. In fact, on second thought, perhaps this method does involve too many problems. In which case, suppose some one else work out a better way of riding to a theatre in New York in less than an hour.—*New York Evening Post.*

LOSES ANYWAY

A member of a volunteer fire department was the driver of the new pumper. To be driver of the big, red, roaring engine was a position to be envied—it was, because since the trial of Jake Smith, the position can be had for the asking. In driving to a fire, Jake lost control of the wheel for a moment and crashed through a fence and just grazed a porch on the other side. According to the laws of the state, Jake as driver, was liable.

After the trial, Jake came out a much wiser man. A friend entered into conversation with him.

"Never go to law," said Jake sadly. "If you win, you lose, and if you lose, you're lost."

POWERS ABOVE

This is a convention story, and no names are mentioned because the fire chief to whom it happened does not care to have the account retold by the thousands in his home city.

He was bound for the I. A. F. C. convention in Portland, Ore. The chief had had a most trying day when be embarked on the train. First of all because of the niggardly policy of the city officials, he could not join a regular party of chiefs, and then again he lacked some sleep because of a night fire that kept the department busy the night before. So the chief was in none too good a temper.

In the same sleeping car was a little girl who was traveling with her parents. It was the youngsters first experience with a sleeping car and as she tossed about in the upper berth she became afraid and started a conversation with her parents who had the lower.

She kept crying and her mother told her not to cry as God would watch over her.

After a few moments of quiet the child cried, "Mother, you there?"

"Yes."

"Father, you there?"

"Yes."

At this point the chief who had a berth on the opposite side of the aisle and who was trying to fall asleep, lost his patience.

He said as loud as he dared, "We're all here! Your father and mother and brothers and sisters and aunts and uncles and cousins. All here, now go to sleep."

There was quiet for a few moments and then very softly, "Mamma!"

"Well?"

"Mamma, was that God?"

TIME TO THINK

A volunteer fire company in a Pennsylvania town was holding a carnival in order to raise money to purchase fire apparatus. Those who have tried operating a carnival know that it is no easy task after the regular duties of the day. One evening after the carnival, a number of the company-members went to the next town to "whoop it up." It was not long before they were all feeling in excellent spirits. The party had lost track of one another, but two still clung as though inseparable.

The next morning as the sun was coming over the hill, the hilarious firemen were gaining consciousness in the town jail. One of the two tried to puzzle out where he was.

"Where am I? Where am I?" he repeated to his friend in the next cell.

"Don't get so impatient. You've got ten days to find out where you are."

Many a good architect of fire stations has discovered after the honeymoon that the wife could make plans too.

There is one fireman that is the luckiest person. He is always finding money under plates in restaurants.

SOUND ADVICE

Early to bed, early to rise
And your girl goes out with other guys.

Triple Combinations

350 *and* 500 *Gallons Capacity*

Light and Heavy Hook and Ladder Trucks

Miscellaneous Fire Fighting Equipment

Fire Department Ladders

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Hope to see you at New England Water Works Assn. Convention, Boston, Sept. 13th-16th.

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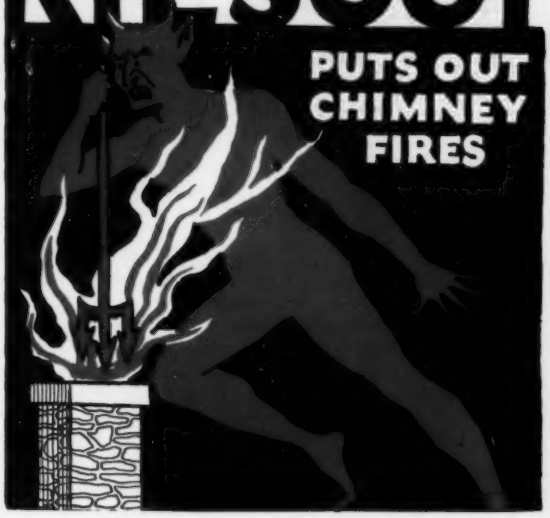

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We repeat our offer to send liberal samples and full details regarding this remarkable chemical product—gladly furnished upon request.

NOW! NO MORE Running Up Ladders TO FIGHT CHIMNEY FIRES

for we can lick the best of them in 15 minutes. We send a man with two packages and he brings back one. One package KilSoot has done the job."

Chief Ticknor, Warrensburgh, N. Y.

"Threw the package into the furnace door and before I could get back up stairs, the fire was out. One man can do the work with KilSoot."

Chief Taggart, Asbury Park, N. J.

"It surely is wonderful stuff for chimneys and we think every householder should have it on hand."

Chief Brookins, Norwich, N. Y.

"It has always proven its worth to our people. In fact we believe from our experience with Kilsoot that it is quite the duty of every Fire Company to lead in the supplying of this cleaner if possible, as a duty they owe to their communities.

Chief Eidemiller, West Milton, Ohio.

"In every case it has put out the fire immediately and cleaned the chimney, too. You may now ship 6 dozen each for our two fire companies and 18 dozen for the taxpayers."

Chief Crandelmire, Brownville, Me.

We Value Your Opinion!
Write for Samples Today

KILSOOT CHEMICAL COMPANY, INC.
530 West 58th St., New York

OF INTEREST TO VOLUNTEER FIRE DEPARTMENTS

VILLAGE COUNCIL SHOULD OWN AND MAINTAIN FIRE DEPARTMENT

Since Fire Service Should be Classed as a City or Village Department, Officials Should Support it in That Manner

WHO owns the fire department?

If the fire department in your village or community is operated in the correct way, a question such as that may seem ridiculous, but in a surprising number of districts, this statement is brought up time and time again. It is far from being humorous.

The fire department, even though it is manned by men who volunteer their services, is an organization that is working for the best interests of the community. It is a service that is considered necessary to the happiness of the individual and it is therefore the duty of the local government to support that service.

The governing village body is established in order to facilitate the supervision of those details that go to make up for the happiness of the individual. And since the happiness of the resident depends in a large measure upon the feeling of security from conflagration, the council should consider the fire department as a village unit.

Some Places Have Private Department

Many of the smaller villages or districts that are limited as to their finances, have had the fire department established by individuals banded together with the interests of their community uppermost in their minds. In this way chapters of the American Legion have organized fire companies, purchased fire apparatus and the necessary equipment, and have even erected houses to shelter the equipment. Such an act is a praiseworthy one from the surface of things. The practice is not confined to the soldier organization but is being done by small groups.

From the face of the details, nothing could be said, as after all it is a body working for the happiness of the individual. It is the after effects and the decrease in moral that is detrimental to the interests of the fire service.

Election of Fire Chief

Each fire department requires some head, some man who is responsible for the many details at a fire. Volunteer departments elect their chief—where there is more than one company in a village, each company shares an equal number of votes in the election of the chief. Under the plan described, who is there to say that the department is not being run to the satisfaction of the community? As the fire department is an organization of an almost private nature, supported by public interest or by the dues of the members, the village officials, must of necessity, be tactful in dictating measures. While many fire companies so organized have worked in entire accord with the council, there are records of ruptures caused by a difference of opinion.

Department Broken Up

Sometimes the council is insistent that certain measures be adopted by the department, and the firemen are often just as insistent that the council assume a "hands-off" policy. Where conditions such as this have come up, the fire department has little respect for the village officials, and the village officials only have the respect for the fire department officers that the ownership of the equipment commands.

With this as a genesis, threats are made that the village will be asked to organize a fire department of their own after a certain date unless such and such is done. Sometimes arbitration results in a momentary adjustment of conditions, but in reality, the rumbling still continues behind the closed doors.

Value of Equipment is Nil

Suppose that the crisis in these things has finally come up and that the village council has said to the chief, "Keep your apparatus. We are going to organize a department of our own." What then? Having the authority of a governing official, it will not be at all difficult to organize a new department, unless the old organization happens to be one that is corelated with the council. The private company will then have the option of selling their apparatus to the village at a price that the village may fix, or of trying to dispose of it as second hand equipment. The village may even refuse to buy it.

Elaborate fire apparatus and equipment with a full manned fire company is of absolutely no value unless it has the authority to operate at fires.

Department Should be Village-Owned

The only solution to the situation just described, and it is not at all uncommon, is to have the village take an active hand in the organization of the fire department at its very inception.

Should some group or organization who have the interests of the community at heart, feel that a department should be organized, the council should see that it is not organized as a private body. Such companies are organized either because the officials lack the initiative of doing such things or because the village treasury lacks the necessary funds. If the trouble is from the lack of progressiveness on the part of the council, action should be started by the individual to wake the members up. But most always it is the matter of money.

Loan Should be Made to Council

Where a group has purchased fire apparatus, they lose the interest on the original investment and in addition pay dues to support the company. Why then should not the group of public interested citizens loan the village the necessary money without interest or in such a manner that they can get by the law and still keep the carrying charges of the loan to the minimum.

In this manner the supervision of the fire department will be brought to the place where it rightfully belongs—the village government. While it will still be necessary for the company members to pay dues, there will not be the constant dread of raising money to buy supplies and hose. A portion of the worry will be shifted to the council.

Firemen Still Have Power

According to the suggested plan, the village council is by no means given dictatorial power. In the smaller community the fire department is a factor that must be considered by the governing forces. Since niggardly policies on the part of the council affects not one, but an appreciable part of the male population, it is a near sighted council who will not look out for the needs of the fire department—both because it is a service to the community and for the intrinsic value of public approval.

No matter how difficult it may be, the village should have control of its department. It is just as much a village department as the road department or the police department, and the village should take an active interest in organizing a company where there is no fire department, or maintaining the department in places where it has already been organized.

Have You a Volunteer Salvage Corps?

Capt. Wm. Paul Babcock of the Nyack Fire Patrol of Nyack, N. Y., is compiling a list of volunteer fire companies or departments that are doing salvage work. In order that this list might be as complete as possible, those knowing of such companies or departments are asked to communicate the information to Mr. Babcock. When the information has all been collected, it will be published and made available to other departments.

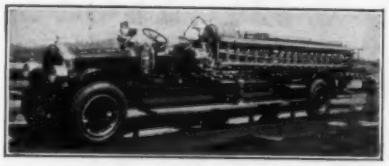
New Haven Conn., to Erect Fire Station—A contract has been awarded for the erection of a new fire station in New Haven, Conn., at an established cost of $35,000.

Siren Installed in Canton, N. Y.—A Gamewell fire siren has been installed in Canton, N. Y. It will be controlled by boxes placed in various sections of the city.

Trenton, N. J., Headquarters Almost Completed—The new fire department headquarters of Trenton, N. J., is about completed. It is claimed that the new building will reduce the operating costs of the department as it will do away with the need of several pieces of property for fire stations.

More Firemen for Denver, Col.—Three lieutenants in Denver, Col., are to be promoted to captains and fifteen men are to be appointed to the fire department. The men are required to man the new rescue wagon which went into service on August 22.

MAXIM FIRE APPARATUS



If your apparatus is Maxim-built it will prove dependable and reliable at all times.

Complete information upon request.

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Quaker Multiple Jacket Solid Woven Fire Hose

Quaker Hose is ruggedly built to insure reliable service under the hardest conditions of fire fighting.

Its tough, rubber tube stands highest internal pressures and the circular-woven solid cover resists abrasion from dragging and crushing.

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Daniel's P.P.P. Rod Packing

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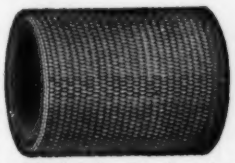

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We can load from 25% to 33% more and when coupled with rocker lug couplings the Bi-Lateral hose makes an apparatus one to be proud of and as near perfect as possible to do quick and efficient service.

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D. A. Woodhouse, Pres. and Gen. Mgr. George J. Kuss, Vice-Pres. and Treas.

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Now Install The Best
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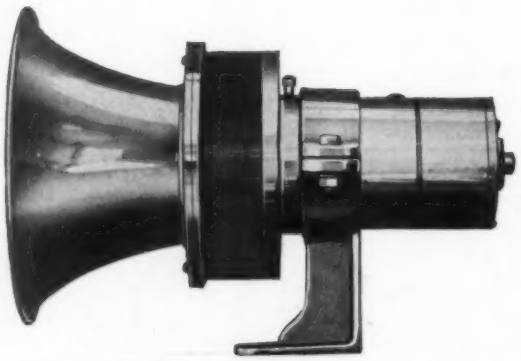
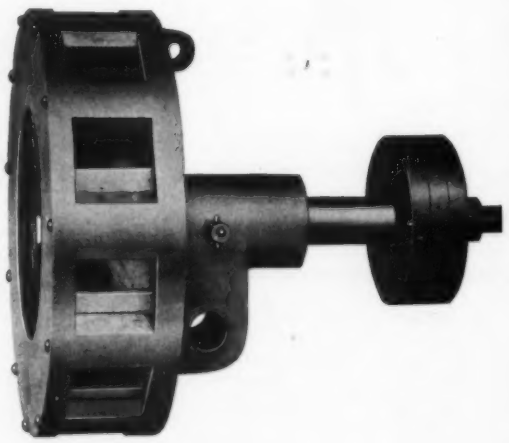


We are now manufacturing a friction or mechanical siren in addition to our electrical siren. This enables us to furnish any type siren desired.

All of Our Sirens Are Unconditionally Guaranteed



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Fire Protection Equipment And Supplies

1 Acid Siphons.
2 Adaptors for Changing Hydrant Threads.
3 Acid Jars and Rings.
4 Aerial Ladders, Detachable.
5 Aerial Trucks.
6 Alarms, Siren, Electric.
7 Alarm Systems, Industrial.
8 Alarm Systems, Municipal Telegraphic.
9 Alarms, Theromostatic.
10 Asbestos, Clothing
11 Badges, Insignias, Buttons, etc.
12 Banners, Trumpets, etc.
13 Battery Jars.
14 Battery Zincs for Fire Alarm Batteries.
15 Bells, Fire Alarm, Municipal.
16 Body Equipments.
17 Boxes, Gongs, Reels, Registers, Fire Alarm.
18 Brakes, Air.
19 Brake Linings.
20 Brooms, Fire.
21 Building Materials, Fire Retardant.
22 Cable & Wire, Fire Alarm.
23 Caps, Firemen's.
24 Chains, Non-Skid, Fire Apparatus.
25 Chassis for Fire Apparatus.
26 Chemical Engines and Tanks.
27 City Service Trucks.
28 Coats & Suits, Firemen's Quick Hitch.
29 Combination Chemical & Hose Cars.
30 Cutting & Welding Equipment, Blow Torch.
31 Cutting & Welding Equipment, Electric.
32 Deluge Sets.
33 Door Openers, Fire Station, Automatic.
34 Extinguishers, Fire, Soda & Acid.
35 Extinguishers, Fire, Tetrachloride.
36 Extinguishers, Fire, Foam.
37 Extinguishers, Fire, Powder
38 Fire Boat Nozzle Equipment.
39 Fire Department Supplies, General.
40 Fire Drills & Organizations.
41 Fire Exit Devices, Door Opening.
42 Fire Alarm Posts.
43 Fire Escapes, Portable.
44 Fire Escapes, Rigid.
45 First Aid Equipment.
46 Flare Lights.
47 Flashlights, Hand.
48 Foam Liquid for Extinguishers.
49 Gas Masks and Respirators.
50 Gas & Smoke Helmets.
51 Gasoline & Oil Handling Equipment.
52 Goggles, Firemen's.
53 Helmets, Metal, etc.
54 Hose Carts, Reels & Racks.

This page is here to make it convenient for you to get complete specifications and prices from the leading manufacturers of the country of fire equipment and supplies of all kinds without cost to you and without any obligation.

To get this information just run down the list below and mail the coupon to us filled out with name and address and with the numbers that indicate the equipment in which you are particularly interested.

We will then notify reliable manufacturers of such equipment of your interest and request that they send you complete information. They will gladly do this and it will be a pleasure for us to help you in this way. So go to it! Help yourself.

For Information on Any Equipment Not Listed, Write on This Page or Use Separate Sheet.

55 Hose Clamps.
56 Hose Fire.
57 Hose, Chemical.
58 Hose Holders.
59 Hose Jackets.
60 Hose Standardization Tools.
61 Hydrant Draining Pumps.
62 Hydrants, Fire.
63 Jacks for Fire Trucks.
64 Jacks, Shoring & Prying.
65 Ladders, Fire.
66 Lightning Arresters.
67 Motorcycles, Fire Dept. Equipped.
68 Nets, Life.
69 Nozzles, Pipes & Misc. Brass Goods.
70 Packings, Pumps.
71 Pads, Pole Hole.
72 Paints, Fire Resisting.
73 Primming Ether, Motor.
74 Pumping Cars, Standard.
75 Pumping Cars, Foam.
76 Pumps, Fire Apparatus.
77 Pumps, Fire Service, Stationary.
78 Pumps, Portable, for Fire Protection.
79 Record Books, Fire.
80 Relief Valves.
81 Reviving Apparatus, Oxygen.
82 Rubber Clothing.
83 Searchlights.
84 Shingles, Fire Retardant.
85 Shirts, Firemen's Special.
86 Sirens, Apparatus & Chiefs' Cars.
87 Sliding Poles.
88 Soda & Acid Chemicals.
89 Spark Plugs, Fire Apparatus & Motorcycles.
90 Squad and other Auxiliary Cars.
91 Sprinkler Head Shut-Offs.
92 Sprinkler Supervisory Service.
93 Sprinkler Systems, Automatic, Foam.
94 Sprinkler Systems, Automatic Water.
95 Starters, Fire Apparatus, Automatic, Air.
96 Steam Fire Engines.
97 Tarpaulins & Fire Blankets.
98 Tetrachloride Chemicals.
99 Thawing Equipment, Hydrant.
100 Tires, Fire Apparatus, Pneumatic, Solid, Cushion and Non-Skid.
101 Tractors.
102 Traffic Clearing Systems.
103 Triple Combination Pumping Cars.
104 Uniforms.
105 Water Towers.
106 Wheels, Cushion.
107 Whistles, Fire Alarm, Compressed Air.
108 Whistles, Fire Alarm, Steam.
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Many a blazing brand has burned itself out on an asbestos roof and many a bad fire would have been no fire at all if the roof had been asbestos.

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American-LaFrance Fire Engine Co.	*Front Cover*
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These two new books contain a mighty fine lot of up-to-the-minute information for every fire officer. Just glance through the list of topics covered as shown below — Then get your order in while the editions last.

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(210 pages, fully illustrated)

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Detailed description of the proper procedure in fighting fires: 1. Size-up; 2. Calling of help; 3. Saving of life; 4. Covering exposures; 5. Extinguishing fire; 6. Overhauling.

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Joisted brick buildings;
Large department stores;
Large hotels and rooming houses;
Warehouses on waterfronts;
Large area residential fires;
Trains of gasoline tank cars;
Combination stores and apartments;
Large oil works;
Motion picture film exchanges;
Large refrigeration plants;
Fiber and rag warehouses;
Tall office buildings;
Piano factories;
Armory (during merchandise exhibitions);
Large area celluloid merchandise factory;
Seashore resort conflagrations;
Large area "taxpayers;"
Wholesale grocery stores and warehouses;
Group-building fires;
Theatres, schools, shoe and candy factories.

Inspection work: what it should cover, and how to supervise it.

Fire Hazards: a list of the more prominent hazards and how they may be corrected.

Overhauling: what it includes and how it is supervised.

Reports of Chief Officers: how to prepare.

How to test motor fire apparatus.

Back draughts: what they are and how to prevent them.

Etc., etc., etc.

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When Buying Fire Hose

Read
What we
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Say—

then—

Listen to
What others
Have to
Say—

then—

Do Your Own Thinking

WHEN you buy fire hose it isn't enough to know what the materials are. You have to know more if you want to buy efficiently and avoid the necessity of frequent repeat orders.

Here are the things you ought to know—

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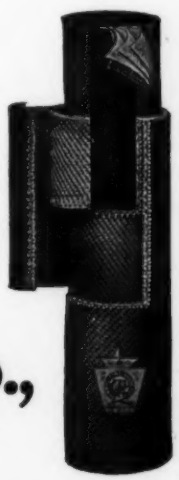
Fabric Wax and Para Gum Treated, Cemented or Loose Inner Tube Fire Hose will not only stand the closest possible inspection inside and out, but we even go out of our way to explain to hose buyers exactly how it is made. Its many points of superiority, important points that you ought to know, are explained in an illustrated booklet which we will gladly send you on request.



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GOOD Fire Hose is Fire Protection Insurance!

No fire department can be more efficient than the hose in its wagons. Every experienced department man realizes that dependable fire hose is one of his mainstays in the continual battle against fire losses.

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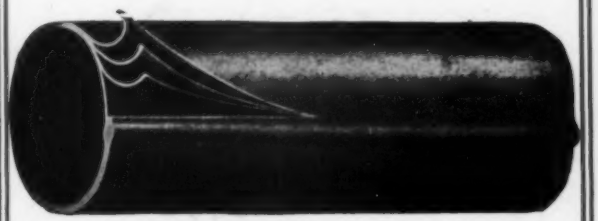
Buy GOOD hose! Stop buying hose on a price basis alone. Often if but ten cents a foot were added to the purchase price of the hose that you are buying—you could invest in the finest hose on the market. Just ten cents a foot—and the life of the good hose will be twice to three times that of the cheaper grade.

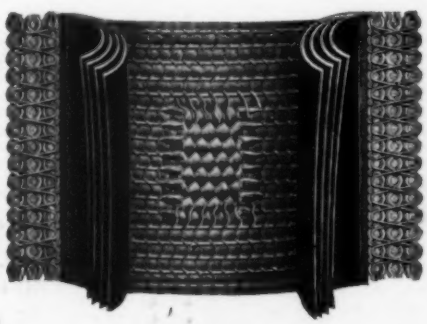
For over fifty years Paragon and the other famous brands of Eureka manufacture have been recognized as the standards of fire hose quality and service. "Eureka" stays on the job 'til the job is done!

"Standardize on Eureka!"

The secret of Eureka Service lies in the Eureka Construction.



There is no finer rubber lining made than the four-ply, hand-made, lap-joined tubes that form the waterway for all brands of Eureka hose. Another factor of Eureka Fire Hose supremacy. From cover to tube, there is no better hose on the market than the famous brands bearing the Eureka trade mark.



This cross-section of Eureka four-ply, circular multiple woven Fire Hose shows the exclusive smooth interior construction. An extra ply of fine yarn woven in the valleys of the inner surface, levels off that surface of the fabric which comes into contact with the rubber tube—entirely eliminating the ribbing or corrugating of rubber linings, unavoidable with other constructions. This feature adds 25% to cover strength.

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